=> s (mutagen? or mutat?)

2 FILES SEARCHED...
5 FILES SEARCHED...
L1 998109 (MUTAGEN? OR MUTAT?)

=> s (complementarity(w)determining(w)region or cdr)

3 FILES SEARCHED...
L2 7755 (COMPLEMENTARITY(W) DETERMINING(W) REGION OR CDR)

=> s (immunoglobulin(w)light(w)chain or Ig(w)light(w)chain)(5a)gene

1 FILES SEARCHED...
2 FILES SEARCHED...
4 FILES SEARCHED...
5 FILES SEARCHED...
L3 1175 (IMMUNOGLOBULIN(W) LIGHT(W) CHAIN OR IG(W) LIGHT(W) CHAIN)
(5A) GENE

l1 and l2 and l3

L4 14 L1 AND L2 AND L3

=> dup rem

ENTER L# LIST OR (END):l4

PROCESSING COMPLETED FOR L4
L5 7 DUP REM L4 (7 DUPLICATES REMOVED)

=> d l5 1-7 ibib ab

L5 ANSWER 1 OF 7 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 1998216698 MEDLINE
DOCUMENT NUMBER: 98216698
TITLE: Characterization of the ***immunoglobulin*** ***light*** ***chain*** variable region ***gene*** expressed in multiple myeloma.
AUTHOR: Kiyoi H; Naito K; Ohno R; Saito H; Naoe T
CORPORATE SOURCE: Department of Infectious Diseases, Nagoya University School of Medicine, Japan.
SOURCE: LEUKEMIA, (1998 Apr) 12 (4) 601-9.
Journal code: LEU. ISSN: 0887-6924.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
NGUAGE: English
LE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199807
ENTRY WEEK: 19980702
AB We studied the organization, diversification and clinical significance of the ***immunoglobulin*** ***light*** ***chain*** (IgL) variable region ***genes*** expressed in 17 kappa-chain and 16 lambda-chain producing multiple myeloma (MM) samples. The V genes from 31 MM samples had over 84.9% homology to the known germline Vkappa/lambda genes, whereas one Vkappa and one Vlambda gene had only 75.5% and 65.9% homology, respectively. While all five Jkappa segments were equally used, only Jlambda-1 or Jlambda-2/3 was used among seven Jlambda segments. N nucleotide addition was found at two Vkappa-Jkappa and five Vlambda-Jlambda junctions. The lambda-chain ***complementarity*** ***determining*** ***region*** (***CDR***)-3 was longer and more variable than the kappa-chain ***CDR*** -3 mainly due to junctional flexibility of Vlambda and Jlambda segments. Somatic ***mutations*** were more frequent in the Jlambda than the Jkappa segments, and were distributed in the ***CDR*** -3 as well as the frame work region (FWR)-4. Those of the Jkappa segments, however, were limited to FWR-4. In FWR-4, replacement ***mutations*** were clustered at codon 106 of kappa-chain and 103 of lambda-chain. Thus nucleotide ***mutation*** or conservation was dependent on position, indicating a structural necessity of IgL for the development of myeloma cells in addition to a non-random distribution of ***mutations*** . There was no characteristic IgL sequence according to the isotype of M-protein, clinical stage or renal complication.

L5 ANSWER 2 OF 7 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1997:616971 CAPLUS
DOCUMENT NUMBER: 127:292064
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: U.S., 45 pp. Cont.-in-part of U.S. Ser. No. 174,674, abandoned.
CODEN: USXXAM

	NUMBER	DATE
PATENT INFORMATION:	US 5667988 A	19970916
APPLICATION INFORMATION:	US 94-300386	19940902
PRIORITY APPLN. INFO.:	US 92-826623	19920127
	US 92-954148	19920930
	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing ***mutagenesis*** within the ***CDR*** regions of Ig heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library prodn. methods. Demonstrated were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to tetanus toxoid, selection of human anti-tetanus toxoid antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, etc.

L5 ANSWER 3 OF 7 BIOSIS COPYRIGHT 1998 BIOSIS
ACCESSION NUMBER: 97:132450 BIOSIS
DOCUMENT NUMBER: 99424263
TITLE: Generation and molecular characterisation of monoclonal IgG4 rheumatoid factor from a patient with rheumatoid arthritis.
AUTHOR(S): Hakoda M; Kamatani N; Taniguchi A; Ueda H; Yamanaka H; Terai C; Kashiwazaki S
CORPORATE SOURCE: Inst. Rheumatol., Tokyo Women's Medical Coll., KS BLDG, 9-12 Wakamatsu-cho, Shinjuku-ku, Tokyo 162, Japan
SOURCE: Annals of the Rheumatic Diseases 56 (1). 1997. 74-77. ISSN: 0003-4967
LANGUAGE: English
AB Objective-To characterize IgG4 rheumatoid factor (RF) at the molecular level from a patient with rheumatoid arthritis. Methods-B cells were cloned from the peripheral blood of a patient with rheumatoid arthritis, using EB virus transformation. The supernatants of the clones were screened for IgG RF activity by ELISA. Nucleotide sequences of the expressed immunoglobulin heavy and light chain genes of one IgG RF producing clone were determined by direct sequencing of the products of a polymerase chain reaction. Results-One clone producing monospecific IgG4 RF was obtained. Sequence analysis of the heavy and light chain genes suggested the accumulation of somatic ***mutations*** resulting in amino acid replacement in ***complementarity*** ***determining*** ***regions*** . Conclusions-The results may suggest an antigen driven response in the generation of IgG4 RF in rheumatoid arthritis disease processes.

L5 ANSWER 4 OF 7 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 2
ACCESSION NUMBER: 1996:363639 CAPLUS
DOCUMENT NUMBER: 125:31941
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Res. Inst., USA
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9607754 A1	19960314
DESIGNATED STATES:	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT	
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG	
APPLICATION INFORMATION:	WO 95-US11235	19950901
PRIORITY APPLN. INFO.:	US 94-300386	19940902

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing ***mutagenesis*** within th ***CDR*** regions of Ig heavy or light chains thar are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing he library diversity,and universal light chains useful in the library prodn. methods. Demonstrated in examples were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to synthetic hapten conjugates, selection of human anti-hapten antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, selection of anti-hapten Fab antibodies expressed on phage, and characterization of sol. semisynthetic Fab heterodimers. Also demonstrated were prepn. of a dicistronic expression vector library capable of expressing a phagemid Fab display protein derived from human anti-thyroid peroxidase antibody light and heavy chain libraries, selection of anti-thyroid peroxidase Fab heterodimers, and characterization of sol. Fab heterodimers.

L5 ANSWER 5 OF 7 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 3
ACCESSION NUMBER: 1994:699102 CAPLUS
DOCUMENT NUMBER: 121:299102
TITLE: Increasing the diversity of antibody libraries in filamentous phage display libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 121 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9418219 A1	19940818
DESIGNATED STATES:	W: AU, CA, FI, JP, NO	
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US1234	19940207
PRIORITY APPLN. INFO.:	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB Methods for producing antibody librari ces, with increased diversity by ***mutagenesis*** within the * **CDR*** coding regions of Ig heavy and light chain genes in filan entous phage display libraries is described. Oligonucleotid es useful for increasing the library diversity, and a universal ligh t chain useful in the prepn. of the library are described. A *** mutagenesis*** method using

PCR with primers that hybridize to framework coding sequences and contain a random sequence of 3-24 triplets is described. A phagemid display vector, pComb3, carrying expression cassettes for heavy and light chain genes leading to surface display of the heavy chain that combined with sol. light chains accumulated in the periplasmic space was constructed using the pelB leader sequence and the cpIII filamentous phage minor coat protein gene. The use of PCR with the degenerate primers described above to create antibodies against a no. of haptens is demonstrated.

L5 ANSWER 6 OF 7 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1994:6484 CAPLUS
DOCUMENT NUMBER: 120:6484
TITLE: Variable region genes of anti-HIV human monoclonal antibodies: Non-restricted use of the V gene repertoire and extensive somatic ***mutation***
AUTHOR(S): Moran, Michael J.; Andris, Jennifer S.; Matsumato, Yohichi; Capra, J. Donald; Hersh, Evan M.
CORPORATE SOURCE: Arizona Cancer Cent., Univ. Arizona, Tucson, AZ, USA
SOURCE: Mol. Immunol. (1993), 30(16), 1543-51
CODEN: MOIMD5; ISSN: 0161-5890
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The extent of the expressed human V gene repertoire for the most part has been derived from fetal cDNA libraries, autoantibodies, and myeloma proteins. To continue to explore the utilization of the VH and VL gene repertoire in response to exogenous viral antigens, the heavy and light chain cDNAs from four human anti-HIV monoclonal antibodies were PCR amplified from human-mouse heterohybridomas, cloned, and nucleotide sequence anal. performed. Of the monoclonals analyzed, three were directed against gp120 and one reacted with gp41. Three of the antibodies were of the IgG1.lambda. isotype and one was an IgG1.kappa.. Three of the four heavy chains were derived from VH1 gene segments and one VHII was obsd. D segments showed evidence of D-D joining the three JH4 and one JH5 gene were utilized. Two V.lambda.II lambda chains and one from the V.lambda.III gene family were obsd. and the single kappa chain sequenced was from the V.kappa.III family. DNA sequence comparison with known germline gene segments identified putative precursor V gene segments for one of the heavy chains and two light chains. Comparison of the expressed amino acid sequences with the predicted germline sequences indicated that changes were clustered in the ***CDRs*** and FR3 regions of the V gene segments. The authors reported previously the nucleotide sequences of five human monoclonal antibodies from HIV-infected individuals, three of which utilized VH1V, one VHV and one a VH1 gene segment and also found extensive evidence of somatic ***mutation*** . Collectively, the authors' results indicate that an antigen driven response is functioning following HIV infection and, surprisingly, to date the authors have not encountered a VHIII gene segment. Since VHIII is the largest human VH gene family, it may well be that this under-representation has both functional and clin. implications.

L5 ANSWER 7 OF 7 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1986:620071 CAPLUS
DOCUMENT NUMBER: 105:220071
TITLE: Clonal recruitment and somatic ***mutation*** in the generation of immunological memory to the hapten NP
AUTHOR(S): Cumano, Ana; Rajewsky, Klaus
CORPORATE SOURCE: Inst. Genet., Univ. Cologne, Cologne, D-5000/41, Fed. Rep. Ger.
SOURCE: EMBO J. (1986), 5(10), 2459-68
CODEN: EMJODG; ISSN: 0261-4189
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The nucleotide sequences of the variable regions of .lambda.1 chain bearing anti-4-hydroxy-3-nitrophenylacetyl (NP) antibodies from the secondary response of C57BL/6 mice were detd. The V186.2 VH gene which dominates the primary anti-NP response is expressed in 9 of 10 secondary response antibodies and is extensively ***mutated*** . In the V.lambda.1 regions, somatic ***mutations*** are less frequent. Whereas point ***mutations*** predominate, there is suggestive evidence for 2 conversion events, one involving a 1-codon deletion. Most, but not all, secondary response antibodies have a higher affinity (.ltoreq.10-fold) for the hapten than is seen in the primary response. The increase in affinity correlates with parallel ***mutations*** in ***CDRs*** (complementarity deg. regions) of H and L chains, likely to play a role in hapten binding. The anal. of VDJH rearrangements demonstrates that the secondary response .lambda.1 chain-bearing antibodies are produced by a diverse set of B cell clones, which are only rarely expressed in primary responses. These clones are characterized by N-sequence-mediated heterogeneity in the 3'-half of CDR3, where the germ line sequence of the D element DFl16.1 predominantes in primary response antibodies. The antibodies analyzed in this and in previous work were isolated from idiotypically suppressed mice in order to evaluate whether, intraclonally, idiotype suppression selects antibody mutants into the memory pool, through suppression of the wild-type. A selection of this type was not detectable. However, idiotype suppression may control the pattern of clonotypes expressed in the primary vs. the secondary response.

=> e barbas c f/au

E1 2 BARBAS ARRIBAS M C/AU
E2 35 BARBAS C/AU
E3 138 --> BARBAS C F/AU
E4 21 BARBAS C F 3D/AU
E5 43 BARBAS C F 3RD/AU
E6 124 BARBAS C F III/AU
E7 28 BARBAS C S/AU
E8 1 BARBAS C S U/AU
E9 48 BARBAS C S V/AU
E10 3 BARBAS CARLOS/AU
E11 15 BARBAS CARLOS F/AU
E12 88 BARBAS CARLOS F III/AU

=> s e6 or e5 or e4 or e3 or e2

L6 361 "BARBAS C F III"/AU OR "BARBAS C F 3RD"/AU OR "BARBAS C F 3D"/AU OR "BARBAS C F"/AU OR "BARBAS C"/AU

=> s e12 or e11 or e10

L7 106 "BARBAS CARLOS F III"/AU OR "BARBAS CARLOS F"/AU OR "BARBA
S CARLOS"/AU

=> d his

(FILE 'HOME' ENTERED AT 14:43:38 ON 12 NOV 1998)
SET PLURALS ON

FILE 'MEDLINE, CANCERLIT, SCISEARCH, BIOSIS, EMBASE, CAPLUS, WPIDS'
ENTERED AT 14:44:10 ON 12 NOV 1998
L1 998109 S (MUTAGEN? OR MUTAT?)
L2 7755 S (COMPLEMENTARITY(W)DETERMINING(W)REGION OR CDR)
L3 1175 S (IMMUNOGLOBULIN(W)LIGHT(W)CHAIN OR IG(W)LIGHT(W)CHAIN)(
L4 14 S L1 AND L2 AND L3
L5 7 DUP REM L4 (7 DUPLICATES REMOVED)
E BARBAS C F/AU
L6 361 S E6 OR E5 OR E4 OR E3 OR E2
L7 106 S E12 OR E11 OR E10

=> s (l6 or l7) and l2

L8 57 (L6 OR L7) AND L2

=> s (l6 or l7) and (l2 and l3)

L9 5 (L6 OR L7) AND (L2 AND L3)

=> dup rem

ENTER L# LIST OR (END):l9

PROCESSING COMPLETED FOR L9
L10 3 DUP REM L9 (2 DUPLICATES REMOVED)

=> d l10 1-3 ibib ab

L10 ANSWER 1 OF 3 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1997:616971 CAPLUS
DOCUMENT NUMBER: 127:292064
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): ***Barbas, Carlos F.*** ; Burton, Dennis R.; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: U.S., 45 pp. Cont.-in-part of U.S. Ser. No. 174,674, abandoned.
CODEN: USXXAM

	NUMBER	DATE
PATENT INFORMATION:	US 5667988 A	19970916
APPLICATION INFORMATION:	US 94-300386	19940902
PRIORITY APPLN. INFO.:	US 92-826623	19920127
	US 92-954148	19920930
	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within the ***CDR*** regions of Ig heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library prodn. methods. Demonstrated were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to tetanus toxoid, selection of human anti-tetanus toxoid antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, etc.

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 1
ACCESSION NUMBER: 1996:363639 CAPLUS
DOCUMENT NUMBER: 125:31941
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): ***Barbas, Carlos F.*** ; Burton, Dennis R.; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Res. Inst., USA
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9607754 A1	19960314
DESIGNATED STATES:	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT	
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG	
APPLICATION INFORMATION:	WO 95-US11235	19950901
PRIORITY APPLN. INFO.:	US 94-300386	19940902

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within th ***CDR*** regions of

Ig heavy or light chains thar are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing he library diversity,and universal light chains useful in the library prodn. methods. Demonstrated in examples were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to synthetic hapten conjugates, selection of human anti-hapten antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, selection of anti-hapten Fab antibodies expressed on phage, and characterization of sol. semisynthetic Fab heterodimers. Also demonstrated were prepn. of a dicistronic expression vector library capable of expressing a phagemid Fab display protein derived from human anti-thyroid peroxidase antibody light and heavy chain libraries, selection of anti-thyroid peroxidase Fab heterodimers, and characterization of sol. Fab heterodimers.

L10 ANSWER 3 OF 3 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 2
ACCESSION NUMBER: 1994:699102 CAPLUS
DOCUMENT NUMBER: 121:299102
TITLE: Increasing the diversity of antibody libraries in filamentous phage display libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): ***Barbas, Carlos F.*** ; Burton, Dennis R.; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 121 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9418219 A1	19940818
DESIGNATED STATES:	W: AU, CA, FI, JP, NO	
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US1234	19940202
PRIORITY APPLN. INFO.:	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB Methods for producing antibody libraries, with increased diversity by mutagenesis within the ***CDR*** coding regions of Ig heavy and light chain genes in filamentous phage display libraries is described. Oligonucleotides useful for increasing the library diversity, and a universal light chain useful in the prepn. of the library are described. A mutagenesis method using PCR with primers that hybridize to framework coding sequences and contain a random sequence of 3-24 triplets is described. A phagemid display vector, pComb3, carrying expression cassettes for heavy and light chain genes leading to surface display of the heavy chain that combined with sol. light chains accumulated in the periplasmic space was constructed using the pelB leader sequence and the cpIII filamentous phage minor coat protein gene. The use of PCR with the degenerate primers described above to create antibodies against a no. of haptens is demonstrated.

=> e burton d r/au

E1	58	BURTON D N/AU
E2	18	BURTON D P/AU
E3	634	--> BURTON D R/AU
E4	79	BURTON D S/AU
E5	278	BURTON D T/AU
E6	230	BURTON D W/AU
E7	1	BURTON DALE EDWARD/AU
E8	5	BURTON DAVID/AU
E9	1	BURTON DAVID E/AU
E10	13	BURTON DAVID J/AU
E11	1	BURTON DAVID L/AU
E12	1	BURTON DAVID LLOYD/AU

=> s e3

L11 634 "BURTON D R"/AU

=> e burton dennis/au

E1	1	BURTON DEBORAH E/AU
E2	1	BURTON DEE/AU
E3	7	--> BURTON DENNIS/AU
E4	4	BURTON DENNIS E/AU
E5	127	BURTON DENNIS R/AU
E6	2	BURTON DENNIS RAYMOND/AU
E7	73	BURTON DENNIS T/AU
E8	2	BURTON DEREK/AU
E9	2	BURTON DEREK A/AU
E10	1	BURTON DEREK ARTHUR/AU
E11	1	BURTON DEWEY EDWARD/AU
E12	2	BURTON DONALD E/AU

=> s e6 or e5 or e3

L12 136 "BURTON DENNIS RAYMOND"/AU OR "BURTON DENNIS R"/AU OR "BURTON DENNIS"/AU

=> s (l11 or l12) and (l2 or l3)

L13 35 (L11 OR L12) AND (L2 OR L3)

=> dup rem

ENTER L# LIST OR (END):l13

PROCESSING COMPLETED FOR L13
L14 11 DUP REM L13 (24 DUPLICATES REMOVED)

=> d l14 1-11 ibib ab

L14 ANSWER 1 OF 11 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1997:616971 CAPLUS
DOCUMENT NUMBER: 127:292064
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; ***Burton, Dennis R.*** ; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: U.S., 45 pp. Cont.-in-part of U.S. Ser. No. 174,674, abandoned.
CODEN: USXXAM

	NUMBER	DATE
PATENT INFORMATION:	US 5667988 A	19970916
APPLICATION INFORMATION:	US 94-300386	19940902
PRIORITY APPLN. INFO.:	US 92-826623	19920127
	US 92-954148	19920930
	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within the ***CDR*** regions of Ig heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library prodn. methods. Demonstrated were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to tetanus toxoid, selection of human anti-tetanus toxoid antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, etc.

L14 ANSWER 2 OF 11 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 1
ACCESSION NUMBER: 1996:363639 CAPLUS
DOCUMENT NUMBER: 125:31941
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; ***Burton, Dennis R.*** ; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Res. Inst., USA
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9607754 A1	19960314
DESIGNATED STATES:	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT	
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG	
APPLICATION INFORMATION:	WO 95-US11235	19950901
PRIORITY APPLN. INFO.:	US 94-300386	19940902

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within th ***CDR*** regions of Ig heavy or light chains thar are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing he library diversity,and universal light chains useful in the library prodn. methods. Demonstrated in examples were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to synthetic hapten conjugates, selection of human anti-hapten antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, selection of anti-hapten Fab antibodies expressed on phage, and characterization of sol. semisynthetic Fab heterodimers. Also demonstrated were prepn. of a dicistronic expression vector library capable of expressing a phagemid Fab display protein derived from human anti-thyroid peroxidase antibody light and heavy chain libraries, selection of anti-thyroid peroxidase Fab heterodimers, and characterization of sol. Fab heterodimers.

L14 ANSWER 3 OF 11 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 96286052 MEDLINE
DOCUMENT NUMBER: 96286052
TITLE: Determinants of polyreactivity in a large panel of recombinant human antibodies from HIV-1 infection.
AUTHOR: Ditzel H J; Itoh K; ***Burton D R***
CORPORATE SOURCE: Department of Immunology, The Scripps Research Institute, La Jolla, CA 92037, USA.
CONTRACT NUMBER: AI33292 (NIAID)
SOURCE: JOURNAL OF IMMUNOLOGY, (1996 Jul 15) 157 (2) 739-49.
Journal code: IFB. ISSN: 0022-1767.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals; Cancer Journals
ENTRY MONTH: 199701
ENTRY WEEK: 19970104
AB A considerable part of the Ab repertoire is given over to polyreactive Abs capable of interacting with multiple antigenic species. Neither the function of these Abs nor the molecular basis for their activity is known. To address the latter problem, we have compared the amino acid sequences of a large panel (n = 70) of polyreactive human monoclonal Fab fragments and conducted a series of engineering experiments on a prototype polyreactive Fab. The Fab fragments were retrieved from combinatorial IgG libraries prepared from the bone marrow of long term asymptomatic HIV-1 seropositive donors. The general features displayed by the panel of IgG

polyreactive Abs include 1) skewed VH family usage with a predominance of VH1 and VH4 clones and a paucity of the normally prevalent VH3 family; 2) use of a variety of different VH germ-line genes within the context of the family usage and no restriction in D or JH gene usage; 3) skewed VL gene usage: 75% of Fabs used one of two germ lines; and 4) extensive somatic modification of both heavy and light chains. The importance of the heavy chain, in particular the heavy chain CDR3 (HCDR3), in dictating the polyreactive phenotype was demonstrated for the prototype Fab by chain shuffling and ***CDR*** transplantation experiments. in addition, and most strikingly, a constrained peptide based on the HCDR3 sequence was shown to be polyreactive and to inhibit binding of the parent Ab to a panel of Ags. A role for conformational flexibility in polyreactivity was suggested by a marked temperature dependence of Ab recognition of Ag. One Ab was shown to be polyreactive at 37 degrees C, but was apparently monoreactive at 4 degrees C. We hypothesize that Ab polyreactivity is associated with conformationally flexible HCDR3 regions in the context of certain favorable framework configurations.

L14 ANSWER 4 OF 11 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 96367681 MEDLINE
DOCUMENT NUMBER: 96367681
TITLE: Selection and evolution of high-affinity human anti-viral antibodies.
AUTHOR: Barbas C F 3rd; ***Burton D R***
CORPORATE SOURCE: Department of Molecular Biology, Scripps Research Institute, La Jolla, CA 92037, USA.
SOURCE: TRENDS IN BIOTECHNOLOGY, (1996 Jul) 14 (7) 230-4. Ref: 26
Journal code: ALJ. ISSN: 0167-7799.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals; B
ENTRY MONTH: 199612
AB High-affinity human anti-viral antibodies [e.g. for human immunodeficiency virus type 1 (HIV-1), respiratory syncytial virus (RSV) and herpes simplex virus (HSV)] can be selected from immune phage-display libraries using a variety of strategies. A small subset of these antibodies show potent neutralization in vitro and anti-viral efficacy in vivo in animal models. The affinities of such antibodies arising from secondary or higher order immune responses can be improved using " ***CDR*** walking'. Sequential and parallel optimization variants of this strategy have been used to improve the affinity of a prototype anti-HIV-1 antibody 420-fold. Ultra-high-affinity human antibodies could constitute a new class of useful anti-viral reagents.

L14 ANSWER 5 OF 11 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1995:665153 CAPLUS
DOCUMENT NUMBER: 123:54143
TITLE: Synthetic human neutralizing monoclonal antibodies to human immunodeficiency virus
INVENTOR(S): Barbas, Carlos F.; ***Burton, Dennis R.*** ; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 253 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9511317 A1	19950427
DESIGNATED STATES:	W: AU, CA, FI, JP, NO, US, US, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US11907	19941019
PRIORITY APPLN. INFO.:	US 93-139409	19931019
	US 94-233619	19940426
	US 94-308841	19940919

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes synthetic human monoclonal antibodies that immunoreact with and neutralize human immunodeficiency virus (HIV). The synthetic monoclonal antibodies of this invention exhibit enhanced binding affinity and neutralization ability to gp120. Also disclosed are immunotherapeutic and diagnostic methods of using the monoclonal antibodies, as well as cell lines for producing the monoclonal antibodies. In example, prepd. were synthetic human Fab heterodimers that exhibit enhanced affinity to gp120 of HIV-1 and has increased neutralizing ability, phagemid libraries having randomized heavy and light chain ***CDR*** , and randomized ***CDR*** composite Fabs having optimized affinity to gp120 based upon preselected randomized CDT of phagemids 3b3 and MT4.

L14 ANSWER 6 OF 11 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 95223974 MEDLINE
DOCUMENT NUMBER: 95223974
TITLE: Human autoantibody recognition of DNA.
AUTHOR: Barbas S M; Ditzel H J; Salonen E M; Yang W P; Silverman G J; ***Burton D R***
CORPORATE SOURCE: Department of Immunology, Scripps Research Institute, La Jolla, CA 92037, USA.
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1995 Mar 28) 92 (7) 2529-33.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199507
AB Combinatorial IgG Fab phage display libraries prepared from a systemic lupus erythematosus (SLE) donor and a healthy donor were affinity selected against human placental DNA. Human monoclonal antibody Fab fragments specific for DNA were isolated from both libraries, although Fabs of the highest affinity were isolated only from the lupus library. Generally, apparent affinities of the Fabs for human placental DNA, purified double-stranded DNA, and denatured DNA were approximately equivalent. Surface plasmon resonance indicated Fab binding constants for a double-stranded oligodeoxynucleotide of 0.2-1.3 x 10(8) M-1. The higher-affinity Fabs, as ranked by binding to human placental DNA or to the oligonucleotide probe, tested positive in the Crithidia luciliae assay commonly used in the diagnosis of SLE, and interestingly the genes encoding the heavy-chain variable regions of these antibodies displayed evidence of only minimal somatic hypermutation. The heavy chains of the SLE Fabs were characterized by a predominance of basic residues toward the N terminus of ***complementarity*** - ***determining*** ***region*** 3 (CDR3). The crucial role of heavy-chain CDR3 (HCDR3) in high-affinity DNA recognition was suggested by the creation of DNA binding in an unrelated antibody by HCDR3 transplantation from SLE antibodies. We propose that high-affinity DNA-binding antibodies can arise in SLE without extensive somatic hypermutation in the variable-region genes because of the expression of inappropriate HCDR3s.

L14 ANSWER 7 OF 11 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 96095799 MEDLINE
DOCUMENT NUMBER: 96095799
TITLE: ***CDR*** walking mutagenesis for the affinity maturation of a potent human anti-HIV-1 antibody into the picomolar range.
AUTHOR: Yang W P; Green K; Pinz-Sweeney S; Briones A T; ***Burton D R*** ; Barbas C F 3rd
CORPORATE SOURCE: Department of Molecular Biology, Scripps Research Institute, La Jolla, CA 92037, USA.
CONTRACT NUMBER: RO1 AI 37470 (NIAID)
SOURCE: JOURNAL OF MOLECULAR BIOLOGY, (1995 Dec 1) 254 (3) 392-403.
Journal code: J6V. ISSN: 0022-2836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199603
AB We describe the investigation of methodologies for the creation of very high affinity human antibodies. The high affinity human antibody b4/12 was optimized for its affinity to the human envelope glycoprotein gp120 of human immunodeficiency virus type 1 (HIV-1). Five libraries of b4/12 were constructed by saturation mutagenesis of ***complementarity*** - ***determining*** ***regions*** (***CDRs***). Libraries of antibody Fab fragments were displayed on the surface of filamentous phage and selected in vitro for binding to immobilized gp120. Sequential and parallel optimization strategies of ***CDRs*** were examined. The sequential ***CDR*** walking strategy consistently yielded b4/12 variants of improved affinity in each of the four different optimization sequences examined. This resulted in a 96-fold improvement in affinity. Additivity effects in the antibody combining site were explored by combining independently optimized ***CDRs*** in the parallel optimization strategy. Six variants containing optimized ***CDRs*** were constructed. Improvement of affinity based on additivity effects proved to be unpredictable but did lead to a modest improvement in affinity. Indeed, only one of the six combinations demonstrated additivity. The highest affinity Fab prepared using this strategy was improved 420-fold in affinity. The affinity of this Fab was 15 pM as compared to 6.3 nM for b4/12. Examination of the kinetics of Fab binding to gp120 revealed that improvements in affinity were dominated by a slowing of the off-rate of the Fab. The methodology presented here provides a route for the improvement of the affinities of antibodies typical of tertiary immune responses into the picomolar range. Such improvements may have profound effects on the utility of antibodies as therapeutic and prophylactic agents.

L14 ANSWER 8 OF 11 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 6
ACCESSION NUMBER: 1994:699102 CAPLUS
DOCUMENT NUMBER: 121:299102
TITLE: Increasing the diversity of antibody libraries in filamentous phage display libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; ***Burton, Dennis R.*** ; Lerner, Richard A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 121 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9418219 A1	19940818
DESIGNATED STATES:	W: AU, CA, FI, JP, NO RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US1234	19940202
PRIORITY APPLN. INFO.:	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB Methods for producing antibody libraries, with increased diversity by mutagenesis within the ***CDR*** coding regions of Ig heavy and light chain genes in filamentous phage display libraries is described. Oligonucleotides useful for increasing the library diversity, and a universal light chain useful in the prepn. of the library are described. A mutagenesis method using PCR with primers that hybridize to framework coding sequences and contain a random sequence of 3-24 triplets is described. A phagemid display vector, pComb3, carrying expression cassettes for heavy and light chain genes leading to surface display of the heavy chain that combined with sol. light chains accumulated in the periplasmic space was constructed using the pelB leader sequence and the cpIII filamentous phage minor coat protein gene. The use of PCR with the degenerate primers described above to create antibodies against a no. of haptens is demonstrated.

L14 ANSWER 9 OF 11 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 94224831 MEDLINE
DOCUMENT NUMBER: 94224831
TITLE: In vitro evolution of a neutralizing human antibody to human immunodeficiency virus type 1 to enhance

affinity and broaden strain cross-reactivity.
AUTHOR: Barbas C F 3rd; Hu D; Dunlop N; Sawyer L; Cababa D; Hendry R M; Nara P L; ***Burton D R***
CORPORATE SOURCE: Department of Molecular Biology, Scripps Research Institute, La Jolla, CA 92037.
CONTRACT NUMBER: AI33292 (NIAID)
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1994 Apr 26) 91 (9) 3809-13.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199408
AB A method is described that allows for the improvement of antibody affinity. This method, termed complementary-determining region (***CDR***) walking, does not require structural information on either antibody or antigen. Complementary-determining regions are targeted for random mutagenesis followed by selection for fitness, [redacted] this case increased binding affinity, by the phage-display [redacted]pproach. The current study targets a human CD4-binding-site anti-gp120 antibody that is potently and broadly neutralizing. Evolution of affinity of this antibody demonstrates in this case that affinity can be increased while reactivity to variants of human immunodeficiency virus type 1 is broadened. The neutralizing ability of this antibody is improved, as assayed with laboratory and primary clinical isolates of human immunodeficiency virus type 1. The ability to produce human antibodies of exceptional affinity and broad neutralizing ability has implications for the therapeutic and prophylactic application of antibodies for human immunodeficiency virus type 1 infection.

L14 ANSWER 10 OF 11 SCISEARCH COPYRIGHT 1998 ISI (R)
ACCESSION NUMBER: 95:68414 SCISEARCH
THE GENUINE ARTICLE: BB94K
TITLE: HUMAN-ANTIBODIES FROM COMBINATORIAL LIBRARIES
AUTHOR: ***BURTON D R (Reprint)*** ; BARBAS C F
CORPORATE SOURCE: SCRIPPS CLIN & RES INST, DEPT IMMUNOL, 10666 N TORREY PINES RD, LA JOLLA, CA, 92037 (Reprint); SCRIPPS CLIN & RES INST, DEPT MOLEC BIOL, LA JOLLA, CA, 92037
COUNTRY OF AUTHOR: USA
SOURCE: ADVANCES IN IMMUNOLOGY, (1994) Vol. 57, pp. 191-280. ISSN: 0065-2776.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 228

L14 ANSWER 11 OF 11 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 92228746 MEDLINE
DOCUMENT NUMBER: 92228746
TITLE: Human combinatorial antibody libraries to hepatitis B surface antigen.
AUTHOR: Zebedee S L; Barbas C F 3d; Hom Y L; Caothien R H; Graff R; DeGraw J; Pyati J; LaPolla R; ***Burton D*** *** R*** ; Lerner R A; et al
CORPORATE SOURCE: R. W. Johnson Pharmaceutical Research Institute, San Diego, CA 92121..
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1992 Apr 15) 89 (8) 3175-9.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
OTHER SOURCE: GENBANK-M88309; GENBANK-M88310; GENBANK-M88311; GENBANK-M88312; GENBANK-M88313; GENBANK-M88314; GENBANK-M88315; GENBANK-M88316; GENBANK-M88317; GENBANK-M88318; GENBANK-M88319
ENTRY MONTH: 199207
AB Human antibody Fab fragments that bind to hepatitis B surface antigen (HBsAg) were generated by using a recombinant phage surface-display expression system. Characterization of HBsAg-specific Fab fragments isolated from two vaccinated individuals reveals diversity in specificity of antigen binding and in the sequences of the ***complementarity*** - ***determining*** ***region*** . The sequence results show examples of human light-chain promiscuity that result in fine specificity changes and a strong relationship to a human germ-line gene. This application illustrates further that this technique is a powerful tool to isolate distinct human antibodies against immunogenic viral targets.

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E3 1071 --> LERNER R A/AU
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E6 7 LERNER R D/AU
E7 4 LERNER R E/AU
E8 116 LERNER R G/AU
E9 1 LERNER R I/AU
E10 7 LERNER R K/AU
E11 106 LERNER R L/AU
E12 272 LERNER R M/AU

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E1 1 LERNER RACHEL/AU
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E3 26 --> LERNER RICHARD/AU
E4 271 LERNER RICHARD A/AU
E5 106 LERNER RICHARD ALAN/AU
E6 2 LERNER RICHARD P/AU
E7 4 LERNER RICHARD W/AU
E8 4 LERNER RITA G/AU
E9 1 LERNER ROB D/AU
E10 1 LERNER ROBERT/AU
E11 1 LERNER ROBERT A/AU
E12 8 LERNER ROBERT G/AU

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L17 396 "LERNER RICHARD ALAN"/AU OR "LERNER RICHARD A"/AU OR "LERNER RICHARD"/AU

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L19 ANSWER 1 OF 16 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1997:616971 CAPLUS
DOCUMENT NUMBER: 127:292064
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; ***Lerner, Richard A.***
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: U.S., 45 pp. Cont.-in-part of U.S. Ser. No. 174,674, abandoned.
CODEN: USXXAM

	NUMBER	DATE
PATENT INFORMATION:	US 5667988 A	19970916
APPLICATION INFORMATION:	US 94-300386	19940902
PRIORITY APPLN. INFO.:	US 92-826623	19920127
	US 92-954148	19920930
	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within the ***CDR*** regions of Ig heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library prodn. methods. Demonstrated were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to tetanus toxoid, selection of human anti-tetanus toxoid antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, etc.

L19 ANSWER 2 OF 16 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 1
ACCESSION NUMBER: 1996:363639 CAPLUS
DOCUMENT NUMBER: 125:31941
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; ***Lerner, Richard A.***
PATENT ASSIGNEE(S): Scripps Res. Inst., USA
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9607754 A1	19960314
DESIGNATED STATES:	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT	
	RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG	
APPLICATION INFORMATION:	WO 95-US11235	19950901
PRIORITY APPLN. INFO.:	US 94-300386	19940902

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within th ***CDR*** regions of Ig heavy or light chains thar are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing he library diversity,and universal light chains useful in the library prodn. methods. Demonstrated in examples were prodn. of phagemid-displayed Fab heavy and light chain heterodimers that bind to synthetic hapten conjugates, selection of human anti-hapten antibodies from semisynthetic light and heavy chain libraries, prepn. of heavy and light chain expression vector libraries having a universal light chain, prepn. of heavy and light chain expression vector libraries having randomized CDR3, selection of anti-hapten Fab antibodies

expressed on phage, and characterization of sol. semisynthetic Fab heterodimers. Also demonstrated were prepn. of a dicistronic expression vector library capable of expressing a phagemid Fab display protein derived from human anti-thyroid peroxidase antibody light and heavy chain libraries, selection of anti-thyroid peroxidase Fab heterodimers, and characterization of sol. Fab heterodimers.

L19 ANSWER 3 OF 16 SCISEARCH COPYRIGHT 1998 ISI (R)
ACCESSION NUMBER: 97:28799 SCISEARCH
THE GENUINE ARTICLE: VZ532
TITLE: Chain shuffling: Investigations into the specificity and selectivity of antibody catalysis
AUTHOR: Lo C H L; Gao C S; Mao S L; Matsui K; ***Lerner R*** *** A (Reprint)*** ; Janda K D
CORPORATE SOURCE: SCRIPPS CLIN & RES INST, DEPT MOL BIOL, 10550 N TORREY PINES RD, LA JOLLA, CA 92037 (Reprint); SCRIPPS CLIN & RES INST, DEPT MOL BIOL, LA JOLLA, CA 92037; SCRIPPS CLIN & RES INST, DEPT CHEM, LA JOLLA, CA 92037
COUNTRY OF AUTHOR: USA
SOURCE: ISRAEL JOURNAL OF CHEMISTRY, (JAN 1996) Vol. 36, No. 2, pp. 195-198.
Publisher: LASER PAGES PUBL LTD, PO BOX 50257, JERUSALEM 91502, ISRAEL.
ISSN: 0021-2148.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: PHYS
LANGUAGE: English
REFERENCE COUNT: 23
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The antibody phage display system has been investigated as a vehicle for the potential altering of a catalytic antibody's specificity and chemical reactivity. Using previously identified catalytic antibodies, heavy and light "chain shuffling" experiments have been conducted. Catalytic activity and specificity requirements in terms of antibody ***complementarity*** - ***determining*** ***regions*** were probed by interchanging heavy and light chain genes between antibodies that catalyze class-similar but different chemical reactions with substrates that are enantiomerically opposed. The results were that antibody-hapten binding specificity was only slightly altered, but catalytic activity was severely compromised.

L19 ANSWER 4 OF 16 CAPLUS COPYRIGHT 1998 ACS
ACCESSION NUMBER: 1995:665153 CAPLUS
DOCUMENT NUMBER: 123:54143
TITLE: Synthetic human neutralizing monoclonal antibodies to human immunodeficiency virus
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; ***Lerner, Richard A.***
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 253 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9511317 A1	19950427
DESIGNATED STATES:	W: AU, CA, FI, JP, NO, US, US, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US11907	19941019
PRIORITY APPLN. INFO.:	US 93-139409	19931019
	US 94-233619	19940426
	US 94-308841	19940919

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes synthetic human monoclonal antibodies that immunoreact with and neutralize human immunodeficiency virus (HIV). The synthetic monoclonal antibodies of this invention exhibit enhanced binding affinity and neutralization ability to gp120. Also disclosed are immunotherapeutic and diagnostic methods of using the monoclonal antibodies, as well as cell lines for producing the monoclonal antibodies. In example, prepd. were synthetic human Fab heterodimers that exhibit enhanced affinity to gp120 of HIV-1 and has increased neutralizing ability, phagemid libraries having randomized heavy and light chain ***CDR*** , and randomized ***CDR*** composite Fabs having optimized affinity to gp120 based upon preselected randomized CDT of phagemids 3b3 and MT4.

L19 ANSWER 5 OF 16 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 2
ACCESSION NUMBER: 1995:210375 CAPLUS
DOCUMENT NUMBER: 122:7940
TITLE: Methods for producing binding sites in immunoglobulin heavy or light chains, oligonucleotide primers for use in this process, and antibodies and peptides so produced
INVENTOR(S): Barbas, Carlos F., III; ***Lerner, Richard*** *** A.***
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 216 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9418221 A1	19940818
DESIGNATED STATES:	W: AU, CA, FI, JP, NO, US, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US1258	19940202
PRIORITY APPLN. INFO.:	US 93-12566	19930202
	US 93-84542	19930628

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing binding sites on polypeptides, and particularly for producing binding sites within the ***CDR*** regions of Ig heavy or light chains that are displayed on the surface of filamentous phage particles. The process comprises use of an oligonucleotide primer in a primer extension reaction. The primer contains 3' and 5' termini which hybridize to first and second framework regions of the Ig gene and an -X-[MNN]a-Y-[MNN]b-X- (X=codon for amino acid of Ig gene; Y=sequence encoding minimal recognition domain; N=any nucleotide; M=A,C; sum of a + b=5-50) sequence between the termini. The invention also describes oligonucleotides useful for prepg. the binding sites, and human monoclonal antibodies produced by the present methods. Using the described method, anti-glycoprotein IIb/IIIa human monoclonal antibodies which were potent inhibitors of platelet aggregation at concns. of 1-100 nM were produced. The Fab fragment of one such antibody had an affinity of 5 .times. 10-9M towards gpIIb/IIIa. These antibodies contained an RGD minimal binding recognition domain. Other antibodies with similar activities were produced which did not have the RGD domain. Peptides derived from the antibody binding sites were identified. These peptides may be used to inhibit platelet adhesion and/or fibrinogen binding to gpIIb/IIIa.

L19 ANSWER 6 OF 16 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 3
ACCESSION NUMBER: 1995:200438 CAPLUS
DOCUMENT NUMBER: 122:2783
TITLE: Methods for producing metal-binding antibodies and pharmaceutical compositions containing the antibodies
INVENTOR(S): Barbas, Carlos F.; Rosenblum, Jonathan; ***Lerner, Richard A.***
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 142 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9418220 A1	19940818
DESIGNATED STATES:	W: AU, CA, FI, JP, NO RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US1238	19940202
PRIORITY APPLN. INFO.:	US 93-12566	19930202
	US 93-77797	19930614

DOCUMENT TYPE: Patent
LANGUAGE: English
AB The present invention describes methods for producing metal binding sites on polypeptides, and particularly for producing metal binding sites within the ***CDR*** regions of Ig heavy or light chains that are displayed on the surface of filamentous phage particles. The method comprises mutagenesis of the ***CDR*** of Ig heavy or light chain genes by amplifying the ***CDR*** region by a primer extension reaction using primer oligonucleotides consisting of a 3' terminus and a 5' terminus capable of hybridizing with the framework region of the Ig gene and a sequence between the termini consisting of (NNS)a (N=any nucleotide; S=G,C; a=3-50). Chimeric Ig genes are prepd. using the amplified ***CDR*** 's and these genes are expressed in an appropriate host cell. The recombinant Ig's are selected for their ability to bind to preselected metal ion-contg. mols. The invention also describes oligonucleotides useful for prepg. the metal binding sites, and human monoclonal antibodies produced by the present methods. Recombinant Fab's with formation consts. of 10-7M for Ni-bovine serum albumin complexes were prepd.

L19 ANSWER 7 OF 16 CAPLUS COPYRIGHT 1998 ACS DUPLICATE 4
ACCESSION NUMBER: 1994:699102 CAPLUS
DOCUMENT NUMBER: 121:299102
TITLE: Increasing the diversity of antibody libraries in filamentous phage display libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F.; Burton, Dennis R.; ***Lerner, Richard A.***
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 121 pp.
CODEN: PIXXD2

	NUMBER	DATE
PATENT INFORMATION:	WO 9418219 A1	19940818
DESIGNATED STATES:	W: AU, CA, FI, JP, NO RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE	
APPLICATION INFORMATION:	WO 94-US1234	19940202
PRIORITY APPLN. INFO.:	US 93-12566	19930202
	US 93-174674	19931228

DOCUMENT TYPE: Patent
LANGUAGE: English
AB Methods for producing antibody libraries, with increased diversity by mutagenesis within the ***CDR*** coding regions of Ig heavy and light chain genes in filamentous phage display libraries is described. Oligonucleotides useful for increasing the library diversity, and a universal light chain useful in the prepn. of the library are described. A mutagenesis method using PCR with primers that hybridize to framework coding sequences and contain a random sequence of 3-24 triplets is described. A phagemid display vector, pComb3, carrying expression cassettes for heavy and light chain genes leading to surface display of the heavy chain that combined with sol. light chains accumulated in the periplasmic space was constructed using the pelB leader sequence and the cpIII filamentous phage minor coat protein gene. The use of PCR with the degenerate primers described above to create antibodies against a no. of haptens is demonstrated.

L19 ANSWER 8 OF 16 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 94195776 MEDLINE
DOCUMENT NUMBER: 94195776
TITLE: Direct selection for a catalytic mechanism from combinatorial antibody libraries.
AUTHOR: Janda K D; Lo C H; Li T; Barbas C F 3rd; Wirsching P; ***Lerner R A***
CORPORATE SOURCE: Department of Molecular Biology, Scripps Research Institute, La Jolla, CA 92037..
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1994 Mar 29) 91 (7) 2532-6.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199407
AB Semisynthetic combinatorial antibody library methodology in the phage-display format was used to select for a cysteine residue in ***complementarity*** - ***determining*** ***regions*** . Libraries were panned with an alpha-phenethyl pyridyl disulfide that undergoes disulfide interchange. Out of 10 randomly picked clones, two contained an unpaired cysteine, one of which was studied. The antibody catalyzed the hydrolysis of the corresponding thioester where the electrophilic carbonyl occupies the three-dimensional space that was defined by the reactive sulfur atom during selection. The reaction operates by covalent catalysis. Although the steady-state rate enhancement relative to the activated thiol ester substrate is modest, hydrolysis of the acylated cysteine intermediate is remarkably efficient with a catalytic advantage of about four orders of magnitude. The results suggest that iterative mechanism-based selection procedures can recapitulate the enzymatic mechanisms refined through evolution.

L19 ANSWER 9 OF 16 BIOSIS COPYRIGHT 1998 BIOSIS
ACCESSION NUMBER: 93:320384 BIOSIS
DOCUMENT NUMBER: BA96:28734
TITLE: INCREASING THE CHEMICAL POTENTIAL OF THE GERM-LINE ANTIBODY REPERTOIRE.
AUTHOR(S): SARVETNICK N; GURUSHANTHAIAH D; HAN N; PRUDENT J;
SCHULTZ P; ***LERNER R***
CORPORATE SOURCE: DEP. NEUROPHARMACOL., SCRIPPS RES. INST., LA JOLLA, CA 92037, USA.
SOURCE: PROC NATL ACAD SCI U S A 90 (9). 1993. 4008-4011.
CODEN: PNASA6 ISSN: 0027-8424
LANGUAGE: English
AB To augment the chemical potential of the immunological repertoire, a metal ion-binding light chain has been introduced into the murine genome. Mice containing the transgene were subsequently immunized with a fluorescein conjugate. The transgenic light chain was found at a high frequency in the anti-fluorescein memory B-cell compartment. This general method should be applicable to other cofactors and small molecules and should lead to generation of antibodies with unique catalytic activities.

L19 ANSWER 10 OF 16 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 94109695 MEDLINE
DOCUMENT NUMBER: 94109695
TITLE: Selection of human anti-hapten antibodies from semisynthetic libraries.
AUTHOR: Barbas C F 3d; Amberg W; Simoncsits A; Jones T M; ***Lerner R A***
RPORATE SOURCE: Department of Chemistry, Scripps Research Institute, La Jolla, CA 92037..
SOURCE: GENE, (1993 Dec 27) 137 (1) 57-62.
Journal code: FOP. ISSN: 0378-1119.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199404
AB Semisynthetic human Fab libraries were constructed, displayed on the surface of filamentous phage and selected for binding to three hapten conjugates. A number of Fabs were isolated and characterized with respect to affinity and specificity. Fabs exhibited affinities of between 80 and 29 nM, as determined by surface plasmon resonance, for the conjugate on which they were selected. Conservation of Asp101 in the third heavy-chain ***complementarity*** ***determining*** ***region*** (HCDR3) appears to be important in the construction of synthetically diverse repertoires.

L19 ANSWER 11 OF 16 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
ACCESSION NUMBER: 92-382106 [46] WPIDS
CROSS REFERENCE: 94-135516 [16]; 94-279673 [34]; 94-279674 [34]; 94-279675 [34]; 96-171625 [17]
DOC. NO. CPI: C92-169574
TITLE: Filamentous phage expressing hetero dimeric receptor - esp. antibody, in its coat protein, useful for diagnostic assay, also new phage DNA libraries and mutagenic oligo nucleotide primers.
DERWENT CLASS: B04 D16
INVENTOR(S): BARBAS, C; KANG, A; ***LERNER, R A*** ; ***LERNER, R***
PATENT ASSIGNEE(S): (SCRI) SCRIPPS RES INST
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9218619	A1	921029 (9246)*	EN		229
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE					
W: AU CA FI JP NO US					
AU 9217856	A	921117 (9310)			
PT 100379	A	930831 (9338)			
EP 580737	A1	940202 (9405)	EN		
R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE					
FI 9304422	A	931208 (9408)			
NO 9303610	A	931210 (9410)			
JP 06506836	W	940804 (9435)			46
AU 662148	B	950824 (9542)			
EP 580737	A4	960424 (9643)			
US 5658727	A	970819 (9739)			102
US 5759817	A	980602 (9829)			

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9218619	A1	WO 92-US3091	920410
AU 9217856	A	AU 92-17856	920410
		WO 92-US3091	920410
PT 100379	A	PT 92-100379	920410
EP 580737	A1	EP 92-910558	920410
		WO 92-US3091	920410
FI 9304422	A	WO 92-US3091	920410
		FI 93-4422	931008
NO 9303610	A	WO 92-US3091	920410
		NO 93-3610	931008
JP 06506836	W	JP 92-510649	920410
		WO 92-US3091	920410
AU 662148	B	AU 92-17856	920410
EP 580737	A4	EP 92-910558	
US 5658727	A	WO 92-US3091	920410
		US 94-133011	940608
US 5759817	A CIP of	US 91-683602	910410
	Cont of	US 92-826623	920127
		US 94-322730	941012

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9217856	A Based on	WO 9218619
EP 580737	A1 Based on	WO 9218619
JP 06506836	W Based on	WO 9218619
AU 662148	B Previous Publ.	AU 9217856
	Based on	WO 9218619
US 5658727	A Based on	WO 9218619

PRIORITY APPLN. INFO: US 92-826623 920127; US 91-683602 910410; US 94-133011 940608; US 94-322730 941012
AB WO 9218619 A UPAB: 971030
A filamentous phage (FP) encapsulating a genome encoding a ligand-binding heterodimeric receptor (LBHR) is new.
Also new are (1) LBHR consisting of a polypeptide (P1) flanked by an N-terminal prokaryotic secretion signal (SS) domain and a C-terminal FP-membrane-anchor (MA) domain, and a second polypeptode (P2) fused to an N-terminal SS domain; (2) vector for expressing a fusion polypeptide (FPP) comprising connected DNA sequences (one encoding SS and the other MA) operably linked to appropriate expression signals; (3) polypeptide (PP) having a ligand-binding receptor component linked at the N-terminus to an SS domain and at the C-terminus to an MA domain; (4) libraries of FP particles each contg. a vector of (2); (5) oligonucleotides (I) useful as primers for mutangenesis in a comentarity-determining region (***CDR***) of an Ig gene consisting of 3'- and 5'-terminal sequences able to hybridise with framework regions of the Ig gene and connected by the sequence (NNR)n N = any nucleotide, R = 5 (i.e. G or C) or K (i.e. G or T) or their analogues; n = 3-24; the terminal sequences are 6-50 nucleotides long; and (6) libraries of dicistronic DNA molecules each with 2 citrons expressing polypeptides of a heterodimeric receptor on the surface of FP.
USE/ADVANTAGE - Recombinant FP proteins do not disrupt phage assembly and are integrated into the assembling matrix in a surface-accessible orientation. LBHR which can be expressed are antibodies, T-cell receptors, etc. having specificity for a preselected ligand and particular recombinant genes can be isolated from the genomic libraries. Labelled FP or LBHR are useful diagnostically for assay of partic. ligands or antigen
Dwg.0/14

L19 ANSWER 12 OF 16 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 92262458 MEDLINE
DOCUMENT NUMBER: 92262458
TITLE: Semisynthetic combinatorial antibody libraries: a chemical solution to the diversity problem.
AUTHOR: Barbas C F 3d; Bain J D; Hoekstra D M; ***Lerner R*** *** A***
CORPORATE SOURCE: Department of Molecular Biology, Scripps Research Institute, La Jolla, CA 92037..
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF
THE UNITED STATES OF AMERICA, (1992 May 15) 89 (10) 4457-61.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199208
AB The properties of naivete and large diversity are considered to be essential starting features for combinatorial antibody libraries that eschew immunization by evolution in vitro. We have prepared large libraries with such properties by using random oligonucleotide synthesis, which has the potential to create approximately 10(20) ***complementarity*** - ***determining*** ***regions*** for antibody heavy chains. When combined with light chains and expressed on phage surfaces, high-affinity antibodies could be selected from 5.0 x 10(7) Escherichia coli transformants. Remarkably, antibodies selected only for binding displayed both general structural features known to be important in nature's own antibodies and specific consensus sequences thought to be critical for interaction with the hapten against which the library was selected. Semisynthetic and ultimately totally synthetic combinatorial libraries when coupled with mutation and selection procedures should replace immunization for generation of reagent, therapeutic, and catalytic antibodies.

L19 ANSWER 13 OF 16 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 92228746 MEDLINE
DOCUMENT NUMBER: 92228746
TITLE: Human combinatorial antibody libraries to hepatitis B surface antigen.
AUTHOR: Zebedee S L; Barbas C F 3d; Hom Y L; Caothien R H; Graff R; DeGraw J; Pyati J; LaPolla R; Burton D R; ***Lerner R A*** ; et al
CORPORATE SOURCE: R. W. Johnson Pharmaceutical Research Institute, San Diego, CA 92121..
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF
THE UNITED STATES OF AMERICA, (1992 Apr 15) 89 (8) 3175-9.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
OTHER SOURCE: GENBANK-M88309; GENBANK-M88310; GENBANK-M88311;

GENBANK-M88312; GENBANK-M88313; GENBANK-M88314; GENBANK-M88315; GENBANK-M88316; GENBANK-M88317; GENBANK-M88318; GENBANK-M88319
ENTRY MONTH: 199207
AB Human antibody Fab fragments that bind to hepatitis B surface antigen (HBsAg) were generated by using a recombinant phage surface-display expression system. Characterization of HBsAg-specific Fab fragments isolated from two vaccinated individuals reveals diversity in specificity of antigen binding and in the sequences of the ***complementarity*** - ***determining*** ***region*** . The sequence results show examples of human light-chain promiscuity that result in fine specificity changes and a strong relationship to a human germ-line gene. This application illustrates further that this technique is a powerful tool to isolate distinct human antibodies against immunogenic viral targets.

L19 ANSWER 14 OF 16 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 90370844 MEDLINE
DOCUMENT NUMBER: 90370844
TITLE: Antibody remodeling: a general solution to the design of a metal-coordination site in an antibody binding pocket.
AUTHOR: Roberts V A; Iverson B L; Iverson S A; Benkovic S J; ***Lerner R A*** ; Getzoff E D; Tainer J A
CORPORATE SOURCE: Department of Molecular Biology, Research Institute of Scripps Clinic, La Jolla, CA 92037.
CONTRACT NUMBER: RO1 GM37684 (NIGMS)
RO1 GM 39345 (NIGMS)
F32GM-1204702 (NIGMS)
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF
THE UNITED STATES OF AMERICA, (1990 Sep) 87 (17) 6654-8.
Journal code: PV3. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199012
AB To develop a general approach to designing cofactor-binding sites for catalytic antibodies, we characterized structural patterns in the binding sites of antibodies and zinc enzymes. Superposition of eight sets of antibody light- and heavy-chain variable domains identified structurally conserved sites within the sequence-variable ***complementarity*** ***determining*** ***regions*** . The pattern for catalytic zinc sites included two ligands close in sequence, a sequence-distant ligand, and a main-chain hydrogen bond joining two ligands. In both the light- and heavy-chain variable domains, the stereochemistry of five structurally conserved sites general to all known antibody structures matched that of the zinc ligands of carbonic anhydrase: three residues on two hydrogen-bonded antiparallel beta-strands. For one such general site, an antibody model replacing residue 34 on the first ***complementarity*** ***determining*** ***region*** of the light chain (L1) and residues 89 and 91 on the third ***complementarity*** ***determining*** ***region*** of the light chain (L3) with histidine ligands formed a zinc-binding site with an open coordination position at the bottom of the antibody binding pocket. For the anti-fluorescein antibody 4-4-20, this L1-L3 site placed the zinc ion about 4 A from the bound fluorescein, an indicator for metal binding. This predicted zinc-binding mutant was created in the single-chain variable domain construct, expressed, and found by fluorescence quenching to bind metal ion with an affinity constant of 10(6) M-1. Thus, our template-based multisite design proved successful for remodeling an antibody to contain a cofactor-binding site, without requiring further mutagenesis and screening. Combination of a specific light or heavy chain containing a catalytic metal site with a library of complementary chains raised to potential substrates or transition state analogs should greatly improve the production of catalytic antibodies with desired activities and specificities.

L19 ANSWER 15 OF 16 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 90341795 MEDLINE
DOCUMENT NUMBER: 90341795
TITLE: Metalloantibodies.
AUTHOR: Iverson B L; Iverson S A; Roberts V A; Getzoff E D; Tainer J A; Benkovic S J; ***Lerner R A***
CORPORATE SOURCE: Department of Molecular Biology, Research Institute of Scripps Clinic, La Jolla, CA 92037.
CONTRACT NUMBER: F32GM-1204702 (NIGMS)
IGM 37684
SOURCE: SCIENCE, (1990 Aug 10) 249 (4969) 659-62.
Journal code: UJ7. ISSN: 0036-8075.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199011
AB A metalloantibody has been constructed with a coordination site for metals in the antigen binding pocket. The Zn(II) binding site from carbonic anhydrase B was used as a model. Three histidine residues have been placed in the light chain ***complementarity*** ***determining*** ***regions*** of a single chain antibody molecule. In contrast to the native protein, the mutant displayed metal-dependent fluorescence-quenching behavior. This response was interpreted as evidence for metal binding in the three-histidine site with relative affinities in the order Cu(II) greater than Zn(II) greater than Cd(II). The presence of metal cofactors in immunoglobulins should facilitate antibody catalysis of redox and hydrolytic reactions.

L19 ANSWER 16 OF 16 MEDLINE
ACCESSION NUMBER: 87115885 MEDLINE
DOCUMENT NUMBER: 87115885
TITLE: Inhibition of phosphorylcholine binding to antibodies using synthetic peptides.
AUTHOR: Lai E H; Kabat E A; Meienhofer J; Heimer E P; Olson A J; ***Lerner R***
CONTRACT NUMBER: 1RO1 AI-19042 (NIAID)
CA-13696 (NCI)
AI-11949 (NIAID)
SOURCE: NATURE, (1987 Jan 8-14) 325 (7000) 168-71.
Journal code: NSC. ISSN: 0028-0836.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 198705
AB The amino-acid sequence Phe-Tyr-Met-Glu is unique to phosphorylcholine (PC)-binding antibodies. It occurs in the first ***complementarity*** - ***determining*** ***region*** (CDR1) of the immunoglobulin heavy chains in 89% of all the anti-PC myeloma and hybridoma proteins but is not present in 490 other immunoglobulin heavy chains, 854 light chains or in 2,260 other unrelated proteins. This unique tetrapeptide therefore seems to be involved in PC binding. Here we compare the effectiveness of Phe-Tyr-Met-Glu and other structurally related peptides in inhibiting the binding of PC to PC-binding proteins McPC603 and HOPC8. We also test a surface-simulation peptide that was constructed to mimic the combining site of McPC603. Our data suggest that all these peptides inhibit the binding of PC to PC-binding proteins non-specifically and we show by computer modelling that the surface-simulation peptide does not duplicate the combining site of McPC603.

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FILE LAST UPDATED: 11 Nov 1998 (19981111/ED)
HIGHEST PATENT NUMBER: US5836014
CA INDEXING IS CURRENT THROUGH 11 Nov 1998 (19981111/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 10 Nov 1998 (19981110/PD)
REVISED CLASS FIELDS (/INCL) LAST RELOADED: May 1998
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 1998

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>>> /IC5, and /IC (/IC6) fields, respectively. The thesauri in <<<
>>> the /IC5 and /IC fields include the corresponding catchword <<<
>>> terms from the IPC subject headings and subheadings. <<<

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(FILE 'HOME' ENTERED AT 14:43:38 ON 12 NOV 1998)
SET PLURALS ON

FILE 'MEDLINE, CANCERLIT, SCISEARCH, BIOSIS, EMBASE, CAPLUS, WPIDS'
ENTERED AT 14:44:10 ON 12 NOV 1998
L1 998109 S (MUTAGEN? OR MUTAT?)
L2 7755 S (COMPLEMENTARITY(W)DETERMINING(W)REGION OR CDR)
L3 1175 S (IMMUNOGLOBULIN(W)LIGHT(W)CHAIN OR IG(W)LIGHT(W)CHAIN)
L4 14 S L1 AND L2 AND L3
L5 7 DUP REM L4 (7 DUPLICATES REMOVED)
E BARBAS C F/AU
L6 361 S E6 OR E5 OR E4 OR E3 OR E2
L7 106 S E12 OR E11 OR E10
L8 57 S (L6 OR L7) AND L2
L9 5 S (L6 OR L7) AND (L2 AND L3)
L10 3 DUP REM L9 (2 DUPLICATES REMOVED)
E BURTON D R/AU
L11 634 S E3
E BURTON DENNIS/AU
L12 136 S E6 OR E5 OR E3
L13 35 S (L11 OR L12) AND (L2 OR L3)
L14 11 DUP REM L13 (24 DUPLICATES REMOVED)
E LERNER R A/AU
L15 1409 S E3 OR E2
E LERNER RICHARD/AU
L16 303 S EE5 OR E4 OR E3
L17 396 S E5 OR E4 OR E3
L18 36 S (L17 OR L15) AND (L2 OR L3)
L19 16 DUP REM L18 (20 DUPLICATES REMOVED)

FILE 'USPATFULL' ENTERED AT 15:23:29 ON 12 NOV 1998

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9212 MUTAGEN?
13238 MUTAT?
1847 COMPLEMENTARITY
16 COMPLEMENTARITIES
1853 COMPLEMENTARITY (COMPLEMENTARITY OR COMPLEMENTARITIES)
303842 DETERMINING
2 DETERMININGS
303842 DETERMINING

(DETERMINING OR DETERMININGS)
425056 REGION
209895 REGIONS
474960 REGION
(REGION OR REGIONS)
359 COMPLEMENTARITY(W) DETERMINING(W) REGION
993 CDR
366 CDRS
1069 CDR
(CDR OR CDRS)
7995 IMMUNOGLOBULIN
4704 IMMUNOGLOBULINS
9641 IMMUNOGLOBULIN
(IMMUNOGLOBULIN OR IMMUNOGLOBULINS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
6672 IG
190 IGS
6785 IG
(IG OR IGS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
20160 GENE
14872 GENES
21754 GENE
(GENE OR GENES)
49 (IMMUNOGLOBULIN(W) LIGHT(W) CHAIN OR IG(W) LIGHT(W) CHAIN)
(5A) GENE
L20 22 L1 AND L2 AND L3

=> d l20 1-22 ibib ab

L20 ANSWER 1 OF 22 USPATFULL
ACCESSION NUMBER: 1998:118845 USPATFULL
TITLE: Transgenic non-human animals for producing heterologous antibodies
INVENTOR(S): Lonberg, Nils, San Francisco, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International Inc., Palo Alto, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5814318	980929
APPLICATION INFO.:	US 0967629	930722 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. 53131, filed on 26 Apr 1993, now patented, Pat. No. 5661016 which is a continuation-in-part of Ser. No. 990860, filed on 16 Dec 1992, now patented, Pat. No. 5545806 which is a continuation-in-part of Ser. No. 904068, filed on 23 Jun 1992 which is a continuation-in-part of Ser. No. 853408, filed on 18 Mar 1992 which is a continuation-in-part of Ser. No. 810279, filed on 17 Dec 1991, now patented, Pat. No. 5569825 which is a continuation-in-part of Ser. No. 575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. 574748, filed on 29 Aug 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 71 Drawing Figure(s); 63 Drawing Page(s)
LINE COUNT: 6925
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies and transgenic non-human animals having inactivated endogenous immunoglobulin genes. In one aspect of the invention, endogenous immunoglobulin genes are suppressed by antisense polynucleotides and/or by antiserum directed against endogenous immunoglobulins. Heterologous antibodies are encoded by immunoglobulin genes not normally found in the genome of that species of non-human animal. In one aspect of the invention, one or more transgenes containing sequences of unrearranged heterologous human immunoglobulin heavy chains are introduced into a non-human animal thereby forming a transgenic animal capable of functionally rearranging transgenic immunoglobulin sequences and producing a repertoire of antibodies of various isotypes encoded by human immunoglobulin genes. Such heterologous human antibodies are produced in B-cells which are thereafter immortalized, e.g., by fusing with an immortalizing cell line such as a myeloma or by manipulating such B-cells by other techniques to perpetuate a cell line capable of producing a monoclonal heterologous antibody. The invention also relates to heavy and light chain immunoglobulin transgenes for making such transgenic non-human animals as well as methods and vectors for disrupting endogenous immunoglobulin loci in the transgenic animal.

L20 ANSWER 2 OF 22 USPATFULL
ACCESSION NUMBER: 1998:92262 USPATFULL
TITLE: Transgenic non-human animals for producing heterologous antibodies
INVENTOR(S): Lonberg, Nils, San Francisco, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International, Inc., Palo Alto, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5789650	980804
APPLICATION INFO.:	US 92-853408	920318 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 92-834539, filed on 5 Feb 1992, now patented, Pat. No. US 5633425 which is a continuation-in-part of Ser. No. US 91-810279, filed on 17 Dec 1991, now patented, Pat. No. US 5569825 which is a continuation-in-part of Ser. No. US 90-575962, filed on 30 Sep 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574748, filed on 29 Aug 1990, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	WO 91-US6185	910828

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 41 Drawing Figure(s); 37 Drawing Page(s)
LINE COUNT: 4678
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies and transgenic non-human animals having inactivated endogenous immunoglobulin genes. In one aspect of the invention, endogenous immunoglobulin genes are suppressed by antisense polynucleotides and/or by antiserum directed against endogenous immunoglobulins. Heterologous antibodies are encoded by immunoglobulin genes not normally found in the genome of that species of non-human animal. In one aspect of the invention, one or more transgenes containing sequences of unrearranged heterologous human immunoglobulin heavy chains are introduced into a non-human animal thereby forming a transgenic animal capable of functionally rearranging transgenic immunoglobulin sequences and producing a repertoire of antibodies of various isotypes encoded by human immunoglobulin genes. Such heterologous human antibodies are produced in B-cells which are thereafter immortalized, e.g., by fusing with an immortalizing cell line such as a myeloma or by manipulating such B-cells by other techniques to perpetuate a cell line capable of producing a monoclonal heterologous antibody. The invention also relates to heavy and light chain immunoglobulin transgenes for making such transgenic non-human animals as well as methods and vectors for disrupting endogenous immunoglobulin loci in the transgenic animal.

L20 ANSWER 3 OF 22 USPATFULL
ACCESSION NUMBER: 1998:82528 USPATFULL
TITLE: Method for generating libaries of antibody genes comprising amplification of diverse antibody DNAs and methods for using these libraries for the production of diverse antigen combining molecules
INVENTOR(S): Wigler, Michael H., Lloyd Harbor, NY, United States
Sorge, Joseph A., Rancho Santa Fe, CA, United States
PATENT ASSIGNEE(S): Stratagene, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5780225	980714
APPLICATION INFO.:	US 94-315269	940929 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 92-919370, filed on 23 Jul 1992 which is a continuation of Ser. No. US 90-464530, filed on 11 Jan 1990
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Campbell, Eggerton A.
LEGAL REPRESENTATIVE: Knobbe, Martens, Olson & Bear, LLP
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1174
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of producing libraries of genes encoding antigen-combining molecules or antibodies; a method of producing antigen-combining molecules which does not require an in vivo procedure; a method of obtaining antigen-combining molecules of selected specificity which does not require an in vivo procedure; vectors useful in the present method; and antigen-combining molecules produced by the method. The antigen-combining molecules are useful for the detection, quantitation, purification and neutralization of antigens, as well as for diagnostic, therapeutic and prophylactic purposes.

L20 ANSWER 4 OF 22 USPATFULL
ACCESSION NUMBER: 1998:72461 USPATFULL
TITLE: Transgenic non-human animals capable of producing heterologous antibodies
INVENTOR(S): Lonberg, Nils, Redwood City, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International, Inc., Palo Alto, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5770429	980623
APPLICATION INFO.:	US 95-544404	951010 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 94-352322, filed on 7 Dec 1994, now patented, Pat. No. US 5625126 which is a continuation-in-part of Ser. No. US 94-209741, filed on 9 Mar 1994, now abandoned which is a continuation-in-part of Ser. No. US 93-165699, filed on 10 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-161739, filed on 3 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-155301, filed on 15 Nov 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-96762, filed on 22 Jul 1993, now

abandoned which is a continuation-in-part of Ser. No. US 93-53131, filed on 26 Apr 1993, now patented, Pat. No. US 5661016 which is a continuation-in-part of Ser. No. US 92-990860, filed on 16 Dec 1992, now patented, Pat. No. US 5545806 which is a continuation-in-part of Ser. No. US 92-904068, filed on 23 Jun 1992 which is a continuation-in-part of Ser. No. US 92-853408, filed on 18 Mar 1992 which is a continuation-in-part of Ser. No. US 91-810279, filed on 17 Dec 1991, now patented, Pat. No. US 5569825 which is a continuation-in-part of Ser. No. US 90-575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574748, filed on 29 Aug 1990, now abandoned

NUMBER	DATE
PRIORITY INFORMATION:	WO 91-US6185 910828
	WO 92-US10983921217
	WO 94-US4580 940425

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 112 Drawing Figure(s); 93 Drawing Page(s)
LINE COUNT: 8550
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies and methods for producing human sequence antibodies which bind to human antigens with substantial affinity.

L20 ANSWER 5 OF 22 USPATFULL
ACCESSION NUMBER: 1998:61437 USPATFULL
TITLE: Heterodimeric receptor libraries using phagemids
INVENTOR(S): Barbas, Carlos, San Diego, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

NUMBER	DATE
PATENT INFORMATION:	US 5759817 980602
APPLICATION INFO.:	US 94-322730 941012 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 92-826623, filed on 27 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 91-683602, filed on 10 Apr 1991, now abandoned

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Degen, Nancy
ASSISTANT EXAMINER: Garry, Sean M.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 17 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 4742
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Filamentous phage comprising a matrix of cpVIII proteins encapsulating a genome encoding first and second polypeptides of an antogenously assembling receptor, such as an antibody, and a receptor comprised of the first and second polypeptides surface-integrated into the matrix via a cpVIII membrane anchor domain fused to at least one of the polypeptides with a ***mutagenized*** CDR3 region.

L20 ANSWER 6 OF 22 USPATFULL
ACCESSION NUMBER: 1998:11896 USPATFULL
TITLE: Increasing antibody affinity by altering glycosylation in the immunoglobulin variable region
INVENTOR(S): Co, Man Sung, Cupertino, CA, United States
Scheinberg, David A., New York, NY, United States
Queen, Cary L., Los Altos, CA, United States
PATENT ASSIGNEE(S): Protein Design Labs, Inc., Mountain View, CA, United States (U.S. corporation)
Sloan-Kettering Cancer Center, Mountain View, CA, United States (U.S. corporation)

NUMBER	DATE
PATENT INFORMATION:	US 5714350 980203
APPLICATION INFO.:	US 95-372262 950113 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 92-850354, filed on 9 Mar 1992, now abandoned

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Lucas, John
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew, LLP
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 975
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides methods for producing ***mutationally*** -altered immunoglobulins and compositions containing such ***mutationally*** -altered immunoglobulins, wherein the ***mutationally*** -altered immunoglobulins have at least one ***mutation*** that alters the pattern of glycosylation in a variable region and thereby modifies the affinity of the immunoglobulin for a preselected antigen. The methods and compositions of the invention provide immunoglobulins that possess increased affinity for antigen. Such glycosylation-altered immunoglobulins are suitable for diagnostic and therapeutic applications.

L20 ANSWER 7 OF 22 USPATFULL
ACCESSION NUMBER: 97:112588 USPATFULL
TITLE: Humanized immunoglobulins
INVENTOR(S): Queen, Cary L., Los Altos, CA, United States
Co, Man Sung, Cupertino, CA, United States
Schneider, William P., Mountain View, CA, United States
Landolfi, Nicholas F., Milpitas, CA, United States
Coelingh, Kathleen L., San Francisco, CA, United States
Selick, Harold E., Belmont, CA, United States
PATENT ASSIGNEE(S): Protein Design Labs, Inc., Mountain View, CA, United States (U.S. corporation)

NUMBER	DATE
PATENT INFORMATION:	US 5693762 971202
APPLICATION INFO.:	US 95-487200 950607 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 90-634278, filed on 19 Dec 1990, now patented, Pat. No. US 5530101 which is a continuation-in-part of Ser. No. US 90-590274, filed on 28 Sep 1990, now abandoned And Ser. No. US 89-310252, filed on 13 Feb 1989, now abandoned which is a continuation-in-part of Ser. No. US 88-290975, filed on 28 Dec 1988, now abandoned

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Reeves, Julie E.
LEGAL REPRESENTATIVE: Townsend & Townsend & Crew
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 80 Drawing Figure(s); 55 Drawing Page(s)
LINE COUNT: 4684
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel methods for producing, and compositions of, humanized immunoglobulins having one or more ***complementarity*** ***determining*** ***regions*** (***CDR*** 's) and possible additional amino acids from a donor immunoglobulin and a framework region from an accepting human immunoglobulin are provided. Each humanized immunoglobulin chain will usually comprise, in addition to the ***CDR*** 's, amino acids from the donor immunoglobulin framework that are, e.g., capable of interacting with the ***CDR*** 's to effect binding affinity, such as one or more amino acids which are immediately adjacent to a ***CDR*** in the donor immunoglobulin or those within about about 3 .ANG. as predicted by molecular modeling. The heavy and light chains may each be designed by using any one or all of various position criteria. When combined into an intact antibody, the humanized immunoglobulins of the present invention will be substantially non-immunogenic in humans and retain substantially the same affinity as the donor immunoglobulin to the antigen, such as a protein or other compound containing an epitope.

L20 ANSWER 8 OF 22 USPATFULL
ACCESSION NUMBER: 97:112587 USPATFULL
TITLE: Polynucleotides encoding improved humanized immunoglobulins
INVENTOR(S): Queen, Cary L., Los Altos, CA, United States
Schneider, William P., Mountain View, CA, United States
Selick, Harold E., Belmont, CA, United States
PATENT ASSIGNEE(S): Protein Design Labs, Inc., Mountain View, CA, United States (U.S. corporation)

NUMBER	DATE
PATENT INFORMATION:	US 5693761 971202
APPLICATION INFO.:	US 95-474040 950607 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 90-634278, filed on 19 Dec 1990, now patented, Pat. No. US 5530101, issued on 25 Jun 1996 which is a continuation of Ser. No. US 90-590274, filed on 28 Sep 1990, now abandoned And a continuation of Ser. No. US 89-310252, filed on 13 Feb 1989, now abandoned which is a continuation of Ser. No. US 88-290975, filed on 28 Dec 1988, now abandoned

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Reeves, Julie E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 37
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 80 Drawing Figure(s); 55 Drawing Page(s)
LINE COUNT: 4810
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel methods for producing, and compositions of, humanized immunoglobulins having one or more ***complementarity*** ***determining*** ***regions*** (***CDR*** 's) and possible additional amino acids from a donor immunoglobulin and a framework region from an accepting human immunoglobulin are provided. Each humanized immunoglobulin chain will usually comprise, in addition to the ***CDR*** 's, amino acids from the donor immunoglobulin framework that are, e.g., capable of interacting with the ***CDR*** 's to effect binding affinity, such as one or more amino acids which are immediately adjacent to a ***CDR*** in the donor immunoglobulin or those within about about 3 .ANG. as predicted by molecular modeling. The heavy and light chains may each be designed by using any one or all of various position criteria. When combined into an intact antibody, the humanized immunoglobulins of the present invention will be substantially non-immunogenic in humans and retain substantially the same affinity as the donor immunoglobulin to the antigen, such as a protein or other compound containing an epitope.

L20 ANSWER 9 OF 22 USPATFULL
ACCESSION NUMBER: 97:83815 USPATFULL
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F., San Diego, CA, United States
Burton, Dennis R., La Jolla, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

NUMBER	DATE

PATENT INFORMATION: US 5667988 970916
APPLICATION INFO.: US 94-300386 940902 (8)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 93-174674, filed on 28 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-12566, filed on 2 Feb 1993, now abandoned Ser. No. Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned And Ser. No. US 92-826623, filed on 27 Jan 1992
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Eisenschenk, Frank C.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 2994
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing ***mutagenesis*** within the ***CDR*** regions of immunoglobulin heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library production methods.

L20 ANSWER 10 OF 22 USPATFULL
ACCESSION NUMBER: 97:81410 USPATFULL
TITLE: Metal binding proteins
INVENTOR(S): Lerner, Richard A., La Jolla, CA, United States
Roberts, Victoria A., San Diego, CA, United States
Getzoff, Elizabeth D., San Diego, CA, United States
Tainer, John A., San Diego, CA, United States
Benkovic, Stephen J., State College, PA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

NUMBER DATE

PATENT INFORMATION: US 5665865 970909
APPLICATION INFO.: US 94-343658 941122 (8)
RELATED APPLN. INFO.: Continuation of Ser. No. US 93-64795, filed on 19 May 1993, now abandoned which is a continuation of Ser. No. US 90-539980, filed on 18 Jun 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-521258, filed on 8 May 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Reeves, Julie
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 32
EXEMPLARY CLAIM: 1,12
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 1756
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention describes a metal binding protein capable of forming a coordination complex with a metal cation. The protein contains a sequence of amino acid residues that defines a variable domain of an immunoglobulin light chain having a L1 region and a L3 region, and also contains three contact amino acid residues in the variable domain that participate as ligands for the metal coordination complex.

L20 ANSWER 11 OF 22 USPATFULL
ACCESSION NUMBER: 97:76001 USPATFULL
TITLE: Transgenic non-human animals capable of producing heterologous antibodies of various isotypes
INVENTOR(S): Lonberg, Nils, San Francisco, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International Inc., Palo Alto, CA, United States (U.S. corporation)

NUMBER DATE

PATENT INFORMATION: US 5661016 970826
APPLICATION INFO.: US 93-53131 930426 (8)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 92-990860, filed on 16 Dec 1992, now patented, Pat. No. US 5454806 which is a continuation-in-part of Ser. No. US 92-904068, filed on 23 Jun 1992 which is a continuation-in-part of Ser. No. US 92-853408, filed on 18 Mar 1992 which is a continuation-in-part of Ser. No. US 92-834539, filed on 5 Feb 1992 which is a continuation-in-part of Ser. No. US 91-810279, filed on 17 Dec 1991, now patented, Pat. No. US 5569825 which is a continuation-in-part of Ser. No. US 90-575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574748, filed on 29 Aug 1990, now abandoned

NUMBER DATE

PRIORITY INFORMATION: WO 91-US9206185910828
WO 92-US10983921217
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 57 Drawing Figure(s); 46 Drawing Page(s)
LINE COUNT: 5602
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies and transgenic non-human animals having inactivated endogenous immunoglobulin genes. In one aspect of the invention, endogenous immunoglobulin genes are suppressed by antisense polynucleotides and/or by antiserum directed against endogenous immunoglobulins. Heterologous antibodies are encoded by immunoglobulin genes not normally found in the genome of that species of non-human animal. In one aspect of the invention, one or more transgenes containing sequences of unrearranged heterologous human immunoglobulin heavy chains are introduced into a non-human animal thereby forming a transgenic animal capable of functionally rearranging transgenic immunoglobulin sequences and producing a repertoire of antibodies of various isotypes encoded by human immunoglobulin genes. Such heterologous human antibodies are produced in B-cells which are thereafter immortalized, e.g., by fusing with an immortalizing cell line such as a myeloma or by manipulating such B-cells by other techniques to perpetuate a cell line capable of producing a monoclonal heterologous antibody. The invention also relates to heavy and light chain immunoglobulin transgenes for making such transgenic non-human animals as well as methods and vectors for disrupting endogenous immunoglobulin loci in the transgenic animal.

L20 ANSWER 12 OF 22 USPATFULL
ACCESSION NUMBER: 97:73438 USPATFULL
TITLE: Heterodimeric receptor libraries using phagemids
INVENTOR(S): Barbas, Carlos, La Jolla, CA, United States
Kang, Angray, Carlsbad, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

NUMBER DATE

PATENT INFORMATION: US 5658727 970819
WO 9218619 921029
APPLICATION INFO.: US 94-133011 940608 (8)
WO 92-US3091 920410
940608 PCT 371 date
940608 PCT 102(e) date
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ketter, James S.
LEGAL REPRESENTATIVE: Fitting, Thomas
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT: 5935
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Filamentous phage comprising a matrix of cpVIII proteins encapsulating a genome encoding first and second polypeptides of an antogenously assembling receptor, such as an antibody, and a receptor comprised of the first and second polypeptides surface-integrated into the matrix via a filamentous phage coat protein membrane anchor domain fused to at least one of the polypeptides.

L20 ANSWER 13 OF 22 USPATFULL
ACCESSION NUMBER: 97:47507 USPATFULL
TITLE: Preparation and use of immunoconjugates
INVENTOR(S): Hansen, Hans J., Mystic Island, NJ, United States
Leung, Shui-on, Madison, NJ, United States
Shevitz, Jerry, Livingston, NJ, United States
Griffiths, Gary L., Morristown, NJ, United States
Govindan, Seregulam V., Summit, NJ, United States
PATENT ASSIGNEE(S): Immunomedics, Inc., Morris Plains, NJ, United States (U.S. corporation)

NUMBER DATE

PATENT INFORMATION: US 5635603 970603
APPLICATION INFO.: US 94-352715 941205 (8)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 93-162912, filed on 8 Dec 1993, now patented, Pat. No. US 5443953, issued on 22 Aug 1995
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Reeves, Julie E.
LEGAL REPRESENTATIVE: Foley & Lardner
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 2541
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to immunoconjugates comprising an antibody fragment which is covalently bound to a diagnostic or therapeutic principle through a carbohydrate moiety in the light chain variable region of the antibody fragment. The invention also relates to immunoconjugates comprising an antibody moiety that is an intact antibody containing a glycosylation site in the light chain variable domain which has been introduced into the antibody by ***mutating*** the nucleotide sequence encoding the light chain. The resultant immunoconjugates retain the immunoreactivity of the antibody fragment or intact antibody, and target the diagnostic or therapeutic principle to a target tissue where the diagnostic or therapeutic effect is realized. Thus, the invention contemplates the use of such immunoconjugates for diagnosis and immunotherapy. The invention further relates to methods for preparing such immunoconjugates.

L20 ANSWER 14 OF 22 USPATFULL
ACCESSION NUMBER: 97:45184 USPATFULL
TITLE: Transgenic non-human animals capable of producing heterologous antibodies
INVENTOR(S): Lonberg, Nils, San Francisco, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International, Inc., Mountain View, CA, United States (U.S. corporation)

NUMBER DATE

PATENT INFORMATION: US 5633425 970527
APPLICATION INFO.: US 92-834539 920205 (7)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 90-575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574448, filed on 29 Aug 1990, now abandoned
DOCUMENT TYPE: Utility

PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 41 Drawing Figure(s); 36 Drawing Page(s)
LINE COUNT: 4396
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies, i.e., antibodies encoded by immunoglobulin heavy and light chain genes not normally found in the genome of that species of non-human animal. In one aspect of the invention, transgenes encoding unrearranged heterologous human immunoglobulin heavy and light chains are introduced into a non-human animal thereby forming a transgenic animal capable of producing antibodies encoded by human immunoglobulin genes. Such heterologous human antibodies are produced in B-cells which are thereafter immortalized, e.g., by fusing with an immortalizing cell line such as a myeloma or by manipulating such B-cells by other techniques to perpetuate a cell line capable of producing a monoclonal heterologous antibody. The invention also relates to heavy and light chain immunoglobulin transgenes for making such transgenic non-human animals as well as methods and vectors for disrupting endogenous immunoglobulin loci in the transgenic animal. The invention also includes methods to generate a synthetic immunoglobulin variable region gene segment repertoire used in transgene construction and methods to induce heterologous antibody production using animals containing heterologous rearranged or unrearranged heavy and light chain immunoglobulin transgenes.

L20 ANSWER 15 OF 22 USPATFULL
ACCESSION NUMBER: 97:36385 USPATFULL
TITLE: Transgenic non-human animals for producing heterologous antibodies
INVENTOR(S): Lonberg, Nils, Redwood City, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International, Inc., Palo Alto, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5625126	970429
APPLICATION INFO.:	US 94-352322	941207 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 94-209741, filed on 9 Mar 1994 which is a continuation-in-part of Ser. No. US 93-165699, filed on 10 Dec 1993 which is a continuation-in-part of Ser. No. US 93-161739, filed on 3 Dec 1993 which is a continuation-in-part of Ser. No. US 93-155301, filed on 18 Nov 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-96762, filed on 22 Jul 1993 which is a continuation-in-part of Ser. No. US 93-53131, filed on 26 Apr 1993 which is a continuation-in-part of Ser. No. US 92-990860, filed on 16 Dec 1992, now patented, Pat. No. US 5545806 which is a continuation-in-part of Ser. No. US 92-904068, filed on 23 Jun 1992 which is a continuation-in-part of Ser. No. US 92-853408, filed on 18 Mar 1992 which is a continuation-in-part of Ser. No. US 92-834539, filed on 5 Feb 1992, now patented, Pat. No. US 5633425 which is a continuation-in-part of Ser. No. US 91-810279, filed on 17 Dec 1991, now patented, Pat. No. US 5569825 which is a continuation-in-part of Ser. No. US 90-575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574748, filed on 29 Aug 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 110 Drawing Figure(s); 89 Drawing Page(s)
LINE COUNT: 7534
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies and methods for producing human sequence antibodies which bind to human antigens with substantial affinity.

L20 ANSWER 16 OF 22 USPATFULL
ACCESSION NUMBER: 96:116100 USPATFULL
TITLE: Humanized immunoglobulins
INVENTOR(S): Queen, Cary L., Los Altos, CA, United States
Selick, Harold E., Belmont, CA, United States
PATENT ASSIGNEE(S): Protein Design Labs, Inc., Mountain View, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5585089	961217
APPLICATION INFO.:	US 95-477728	950607 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 90-634278, filed on 19 Dec 1990, now patented, Pat. No. US 5530101 which is a continuation-in-part of Ser. No. US 90-590274, filed on 28 Sep 1990, now abandoned And Ser. No. US 89-310252, filed on 13 Feb 1989, now abandoned which is a continuation-in-part of Ser. No. US 88-290975, filed on 28 Dec 1988, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 4
NUMBER OF DRAWINGS: 80 Drawing Figure(s); 55 Drawing Page(s)
LINE COUNT: 4605
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel methods for producing, and compositions of humanized immunoglobulins having one or more ***complementarity*** ***determining*** ***regions*** (***CDR*** 's) and possible additional amino acids from a donor immunoglobulin and a framework region from an accepting human immunoglobulin are provided. Each humanized immunoglobulin chain will usually comprise, in addition to the ***CDR*** 's, amino acids from the donor immunoglobulin framework that are, e.g., capable of interacting with the ***CDR*** 's to effect binding affinity, such as one or more amino acids which are immediately adjacent to a ***CDR*** in the donor immunoglobulin or those within about 3 .ANG. as predicted by molecular modeling. The heavy and light chains may each be designed by using any one or all of various position criteria. When combined into an intact antibody, the humanized immunoglobulins of the present invention will be substantially non-immunogenic in humans and retain substantially the same affinity as the donor immunoglobulin to the antigen, such as a protein or other compound containing an epitope.

L20 ANSWER 17 OF 22 USPATFULL
ACCESSION NUMBER: 96:99376 USPATFULL
TITLE: Transgenic non-human animals capable of producing heterologous antibodies of various isotypes
INVENTOR(S): Lonberg, Nils, San Francisco, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International, Mountain View, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5569825	961029
APPLICATION INFO.:	US 91-810279	911217 (7)
DISCLAIMER DATE:	20121216	

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 90-575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574748, filed on 29 Aug 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Dunn, Tracy J.; Smith, William M.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 43 Drawing Figure(s); 35 Drawing Page(s)
LINE COUNT: 3377
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies of multiple isotypes. Heterologous antibodies are encoded by immunoglobulin heavy chain genes not normally found in the genome of that species of non-human animal. In one aspect of the invention, one or more transgenes containing sequences that permit isotype switching of encoded unrearranged heterologous human immunoglobulin heavy chains are introduced into a non-human animal thereby forming a transgenic animal capable of producing antibodies of various isotypes encoded by human immunoglobulin genes. Such heterologous human antibodies are produced in B-cells which are thereafter immortalized, e.g., by fusing with an immortalizing cell line such as a myeloma or by manipulating such B-cells by other techniques to perpetuate a cell line capable of producing a monoclonal heterologous antibody. The invention also relates to heavy and light chain immunoglobulin transgenes for making such transgenic non-human animals as well as methods and vectors for disrupting endogenous immunoglobulin loci in the transgenic animal.

L20 ANSWER 18 OF 22 USPATFULL
ACCESSION NUMBER: 96:73050 USPATFULL
TITLE: Ransgenic non-human animals for producing heterologous antibodies
INVENTOR(S): Lonberg, Nils, San Francisco, CA, United States
Kay, Robert M., San Francisco, CA, United States
PATENT ASSIGNEE(S): GenPharm International, Inc., Mountain View, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5545806	960813
APPLICATION INFO.:	US 92-990860	921216 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 91-810279, filed on 17 Dec 1991 And a continuation-in-part of Ser. No. US 92-904068, filed on 23 Jun 1992 which is a continuation-in-part of Ser. No. US 92-853408, filed on 18 Mar 1992 which is a continuation-in-part of Ser. No. US 90-575962, filed on 31 Aug 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-574748, filed on 29 Aug 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ziska, Suzanne E.
LEGAL REPRESENTATIVE: Townsend & Townsend & Crew LLP
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 52 Drawing Figure(s); 46 Drawing Page(s)
LINE COUNT: 4576
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to transgenic non-human animals capable of producing heterologous antibodies and transgenic non-human animals having inactivated endogenous immunoglobulin genes. In one aspect of the invention, endogenous immunoglobulin genes are suppressed by antisense polynucleotides and/or by antiserum directed against endogenous immunoglobulins. Heterologous antibodies are encoded by immunoglobulin genes not normally found in the genome of that species of non-human animal. In one aspect of the invention, one or more transgenes containing sequences of unrearranged heterologous human immunoglobulin heavy chains are introduced into a non-human animal thereby forming a transgenic animal capable of functionally rearranging transgenic immunoglobulin sequences and producing a repertoire of antibodies of various isotypes encoded by human immunoglobulin genes. Such heterologous human antibodies are produced in B-cells which are thereafter immortalized, e.g., by fusing with an immortalizing cell line such as a myeloma or by manipulating such B-cells by other techniques to perpetuate a cell line capable of producing a monoclonal heterologous antibody. The invention also relates to heavy and light chain immunoglobulin transgenes for making such transgenic non-human animals as well as

methods and vectors for disrupting endogenous immunoglobulin loci in the transgenic animal.

L20 ANSWER 19 OF 22 USPATFULL
ACCESSION NUMBER: 96:55856 USPATFULL
TITLE: Humanized immunoglobulins
INVENTOR(S): Queen, Cary L., Los Altos, CA, United States
Selick, Harold E., Belmont, CA, United States
PATENT ASSIGNEE(S): Protein Design Labs, Inc., Mountain View, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5530101	960625
APPLICATION INFO.:	US 90-634278	901219 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 90-590274, filed on 28 Sep 1990, now abandoned And a continuation-in-part of Ser. No. US 89-310252, filed on 13 Feb 1989, now abandoned which is a continuation-in-part of Ser. No. US 88-290975, filed on 28 Dec 1988, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 80 Drawing Figure(s); 55 Drawing Page(s)
LINE COUNT: 4526
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel methods for producing, and compositions of, humanized immunoglobulins having one or more ***complementarity*** ***determining*** ***regions*** (***CDR*** 's) and possible additional amino acids from a donor immunoglobulin and a framework region from an accepting human immunoglobulin are provided. Each humanized immunoglobulin chain will usually comprise, in addition to the ***CDR*** 's, amino acids from the donor immunoglobulin framework that are, e.g., capable of interacting with the ***CDR*** 's to effect binding affinity, such as one or more amino acids which are immediately adjacent to a ***CDR*** in the donor immunoglobulin or those within about 3 .ANG. as predicted by molecular modeling. The heavy and light chains may each be designed by using any one or all of various position criteria. When combined into an intact antibody, the humanized immunoglobulins of the present invention will be substantially non-immunogenic in humans and retain substantially the same affinity as the donor immunoglobulin to the antigen, such as a protein or other compound containing an epitope.

L20 ANSWER 20 OF 22 USPATFULL
ACCESSION NUMBER: 95:75864 USPATFULL
TITLE: Preparation and use of immunoconjugates
INVENTOR(S): Hansen, Hans J., Mystic Island, NJ, United States
Leung, Shui-on, Madison, NJ, United States
Shevitz, Jerry, Livingston, NJ, United States
PATENT ASSIGNEE(S): Immunomedics, Inc., Morris Plains, NJ, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5443953	950822
APPLICATION INFO.:	US 93-162912	931208 (8)

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Saunders, David
LEGAL REPRESENTATIVE: Foley & Lardner
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 1692
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to immunoconjugates comprising an antibody fragment which is covalently bound to a diagnostic or therapeutic principle through a carbohydrate moiety in the light chain variable region of the antibody fragment. The invention also relates to immunoconjugates comprising an antibody moiety that is an intact antibody containing a glycosylation site in the light chain variable domain which has been introduced into the antibody by ***mutating*** the nucleotide sequence encoding the light chain. The resultant immunoconjugates retain the immunoreactivity of the antibody fragment or intact antibody, and target the diagnostic or therapeutic principle to a target tissue where the diagnostic or therapeutic effect is realized. Thus, the invention contemplates the use of such immunoconjugates for diagnosis and immunotherapy. The invention further relates to methods for preparing such immunoconjugates.

L20 ANSWER 21 OF 22 USPATFULL
ACCESSION NUMBER: 94:82347 USPATFULL
TITLE: Chimeric ligand/immunoglobulin molecules and their uses
INVENTOR(S): Landolfi, Nicholas F., Mountain View, CA, United States
PATENT ASSIGNEE(S): Protein Design Labs, Inc., Mountain View, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5349053	940920
APPLICATION INFO.:	US 93-76263	930610 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 90-532267, filed on 1 Jun 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Draper, Garnette D.
LEGAL REPRESENTATIVE: Townsend and Townsend Khourie and Crew
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 865
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Chimeric molecules having a ligand component linked to an immunoglobulin constant region component are provided for various diagnostic, therapeutic and other uses. These immunoligands can exhibit the high degree of specificity associated with the ligand, yet retain various effector functions characteristic of immunoglobulin heavy chains.

L20 ANSWER 22 OF 22 USPATFULL
ACCESSION NUMBER: 93:7037 USPATFULL
TITLE: Nucleotide sequences which are selectively expressed in pre-B cells and probes therefor
INVENTOR(S): Bauer, Steven R., Birsfelden, Switzerland
Kudo, Akira, Basel, Switzerland
Melchers, Georg F., Grenzach, Germany, Federal Republic of
Sakaguchi, Nobuo, Saga, Japan
PATENT ASSIGNEE(S): Hoffmann-La Roche Inc., Nutley, NJ, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5182205	930126
APPLICATION INFO.:	US 91-701328	910508 (7)

RELATED APPLN. INFO.: Continuation of Ser. No. US 87-119369, filed on 10 Nov 1987, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	GB 86-28433	861127
	GB 87-16497	870714
	GB 87-24100	871014

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Schwartz, Richard A.
ASSISTANT EXAMINER: LeGuyader, John
LEGAL REPRESENTATIVE: Gould, George M.; Epstein, William H.; Roseman, Catherine R.
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 29 Drawing Figure(s); 35 Drawing Page(s)
LINE COUNT: 2043
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides nucleotide sequences which are selectively expressed in pre-B cells, probes comprising a polynucleotide hybridizing specifically to such a nucleotide sequence and methods for the production of such probes. These probes may be used for identifying pre-B cells. The invention further provides polypeptides translated from a transcript comprising a nucleotide sequence which is selectively expressed in pre-B cells or parts thereof, antibodies against these polypeptides and methods for the preparation and use of the polypeptides and antibodies raised against them.

=> d his

(FILE 'HOME' ENTERED AT 14:43:38 ON 12 NOV 1998)
SET PLURALS ON

FILE 'MEDLINE, CANCERLIT, SCISEARCH, BIOSIS, EMBASE, CAPLUS, WPIDS'
ENTERED AT 14:44:10 ON 12 NOV 1998
L1 998109 S (MUTAGEN? OR MUTAT?)
L2 7755 S (COMPLEMENTARITY(W)DETERMINING(W)REGION OR CDR)
L3 1175 S (IMMUNOGLOBULIN(W)LIGHT(W)CHAIN OR IG(W)LIGHT(W)CHAIN)(
L4 14 S L1 AND L2 AND L3
L5 7 DUP REM L4 (7 DUPLICATES REMOVED)
E BARBAS C F/AU
L6 361 S E6 OR E5 OR E4 OR E3 OR E2
L7 106 S E12 OR E11 OR E10
L8 57 S (L6 OR L7) AND L2
L9 5 S (L6 OR L7) AND (L2 AND L3)
L10 3 DUP REM L9 (2 DUPLICATES REMOVED)
E BURTON D R/AU
L11 634 S E3
E BURTON DENNIS/AU
L12 136 S E6 OR E5 OR E3
L13 35 S (L11 OR L12) AND (L2 OR L3)
L14 11 DUP REM L13 (24 DUPLICATES REMOVED)
E LERNER R A/AU
L15 1409 S E3 OR E2
E LERNER RICHARD/AU
L16 303 S EE5 OR E4 OR E3
L17 396 S E5 OR E4 OR E3
L18 36 S (L17 OR L15) AND (L2 OR L3)
L19 16 DUP REM L18 (20 DUPLICATES REMOVED)

FILE 'USPATFULL' ENTERED AT 15:23:29 ON 12 NOV 1998
L20 22 S L4

=> s l9

0 "BARBAS C F III"/AU
0 "BARBAS C F 3RD"/AU
0 "BARBAS C F 3D"/AU
0 "BARBAS C F"/AU
0 "BARBAS C"/AU
0 "BARBAS CARLOS F III"/AU
4 "BARBAS CARLOS F"/AU
2 "BARBAS CARLOS"/AU
1847 COMPLEMENTARITY
16 COMPLEMENTARITIES
1853 COMPLEMENTARITY (COMPLEMENTARITY OR COMPLEMENTARITIES)
303842 DETERMINING
2 DETERMININGS
303842 DETERMINING (DETERMINING OR DETERMININGS)
425056 REGION
209895 REGIONS
474960 REGION (REGION OR REGIONS)
359 COMPLEMENTARITY(W) DETERMINING(W) REGION
993 CDR
366 CDRS
1069 CDR (CDR OR CDRS)
7995 IMMUNOGLOBULIN

4704 IMMUNOGLOBULINS
9641 IMMUNOGLOBULIN
(IMMUNOGLOBULIN OR IMMUNOGLOBULINS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
6672 IG
190 IGS
6785 IG
(IG OR IGS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
20160 GENE
14872 GENES
21754 GENE
(GENE OR GENES)
49 (IMMUNOGLOBULIN(W) LIGHT(W) CHAIN OR IG(W) LIGHT(W) CHAIN)
(5A) GENE
L21 3 (L6 OR L7) AND (L2 AND L3)

=> d l21 1-3 ibib ab

L21 ANSWER 1 OF 3 USPATFULL
ACCESSION NUMBER: 1998:61437 USPATFULL
TITLE: Heterodimeric receptor libraries using phagemids
INVENTOR(S): ***Barbas, Carlos*** , San Diego, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5759817	980602
APPLICATION INFO.:	US 94-322730	941012 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 92-826623, filed on 27 Jan 1992, now abandoned which is a continuation-in-part of Ser. No. US 91-683602, filed on 10 Apr 1991, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Degen, Nancy
ASSISTANT EXAMINER: Garry, Sean M.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 17 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 4742
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Filamentous phage comprising a matrix of cpVIII proteins encapsulating a genome encoding first and second polypeptides of an antogenously assembling receptor, such as an antibody, and a receptor comprised of the first and second polypeptides surface-integrated into the matrix via a cpVIII membrane anchor domain fused to at least one of the polypeptides with a mutagenized CDR3 region.

L21 ANSWER 2 OF 3 USPATFULL
ACCESSION NUMBER: 97:83815 USPATFULL
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): ***Barbas, Carlos F.*** , San Diego, CA, United States
Burton, Dennis R., La Jolla, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5667988	970916
APPLICATION INFO.:	US 94-300386	940902 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 93-174674, filed on 28 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-12566, filed on 2 Feb 1993, now abandoned Ser. No. Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned And Ser. No. US 92-826623, filed on 27 Jan 1992
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Eisenschenk, Frank C.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 2994
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within the ***CDR*** regions of immunoglobulin heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library production methods.

L21 ANSWER 3 OF 3 USPATFULL
ACCESSION NUMBER: 97:73438 USPATFULL
TITLE: Heterodimeric receptor libraries using phagemids
INVENTOR(S): ***Barbas, Carlos*** , La Jolla, CA, United States
Kang, Angray, Carlsbad, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5658727	970819
	WO 9218619	921029
APPLICATION INFO.:	US 94-133011	940608 (8)
	WO 92-US3091	920410
		940608 PCT 371 date
		940608 PCT 102(e) date

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ketter, James S.
LEGAL REPRESENTATIVE: Fitting, Thomas
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT: 5935
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Filamentous phage comprising a matrix of cpVIII proteins encapsulating a genome encoding first and second polypeptides of an antogenously assembling receptor, such as an antibody, and a receptor comprised of the first and second polypeptides surface-integrated into the matrix via a filamentous phage coat protein membrane anchor domain fused to at least one of the polypeptides.

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(FILE 'HOME' ENTERED AT 14:43:38 ON 12 NOV 1998)
SET PLURALS ON

FILE 'MEDLINE, CANCERLIT, SCISEARCH, BIOSIS, EMBASE, CAPLUS, WPIDS'
ENTERED AT 14:44:10 ON 12 NOV 1998
L1 998109 S (MUTAGEN? OR MUTAT?)
L2 7755 S (COMPLEMENTARITY(W)DETERMINING(W)REGION OR CDR)
L3 1175 S (IMMUNOGLOBULIN(W)LIGHT(W)CHAIN OR IG(W)LIGHT(W)CHAIN)(
L4 14 S L1 AND L2 AND L3
L5 7 DUP REM L4 (7 DUPLICATES REMOVED)
E BARBAS C F/AU
L6 361 S E6 OR E5 OR E4 OR E3 OR E2
L7 106 S E12 OR E11 OR E10
L8 57 S (L6 OR L7) AND L2
L9 5 S (L6 OR L7) AND (L2 AND L3)
L10 3 DUP REM L9 (2 DUPLICATES REMOVED)
E BURTON D R/AU
L11 634 S E3
E BURTON DENNIS/AU
L12 136 S E6 OR E5 OR E3
L13 35 S (L11 OR L12) AND (L2 OR L3)
L14 11 DUP REM L13 (24 DUPLICATES REMOVED)
E LERNER R A/AU
L15 1409 S E3 OR E2
E LERNER RICHARD/AU
L16 303 S EE5 OR E4 OR E3
L17 396 S E5 OR E4 OR E3
L18 36 S (L17 OR L15) AND (L2 OR L3)
L19 16 DUP REM L18 (20 DUPLICATES REMOVED)

FILE 'USPATFULL' ENTERED AT 15:23:29 ON 12 NOV 1998
L20 22 S L4
L21 3 S L9

=> s l13

0 "BURTON D R"/AU
1 "BURTON DENNIS RAYMOND"/AU
5 "BURTON DENNIS R"/AU
0 "BURTON DENNIS"/AU
1847 COMPLEMENTARITY
16 COMPLEMENTARITIES
1853 COMPLEMENTARITY
(COMPLEMENTARITY OR COMPLEMENTARITIES)
303842 DETERMINING
2 DETERMININGS
303842 DETERMINING
(DETERMINING OR DETERMININGS)
425056 REGION
209895 REGIONS
474960 REGION
(REGION OR REGIONS)
359 COMPLEMENTARITY(W) DETERMINING(W) REGION
993 CDR
366 CDRS
1069 CDR
(CDR OR CDRS)
7995 IMMUNOGLOBULIN
4704 IMMUNOGLOBULINS
9641 IMMUNOGLOBULIN
(IMMUNOGLOBULIN OR IMMUNOGLOBULINS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
6672 IG
190 IGS
6785 IG
(IG OR IGS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN

88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
20160 GENE
14872 GENES
21754 GENE
(GENE OR GENES)
49 (IMMUNOGLOBULIN(W) LIGHT(W) CHAIN OR IG(W) LIGHT(W) CHAIN)
(5A) GENE
L22 3 (L11 OR L12) AND (L2 OR L3)

=> d l22 1-3 ibib ab

L22 ANSWER 1 OF 3 USPATFULL
ACCESSION NUMBER: 1998:108273 USPATFULL
TITLE: Human neutralizing monoclonal antibodies to human immunodeficiency virus
INVENTOR(S): ***Burton, Dennis R.*** , La Jolla, CA, United States
Barbas, Carlos F., San Diego, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5804440	980908
APPLICATION INFO.:	US 97-899575	970724 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 94-276852, filed on 18 Jul 1994, now patented, Pat. No. US 5652138 which is a continuation-in-part of Ser. No. US 94-178302, filed on 6 Jan 1994, now abandoned which is a continuation-in-part of Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Budens, Robert D.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1,3,5,8
NUMBER OF DRAWINGS: 60 Drawing Figure(s); 56 Drawing Page(s)
LINE COUNT: 5816
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes human monoclonal antibodies which immunoreact with and neutralize human immunodeficiency virus (HIV). Also disclosed are immunotherapeutic and diagnostic methods of using the monoclonal antibodies, as well as cell line for producing the monoclonal antibodies.

L22 ANSWER 2 OF 3 USPATFULL
ACCESSION NUMBER: 97:83815 USPATFULL
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F., San Diego, CA, United States
Burton, Dennis R. , La Jolla, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5667988	970916
APPLICATION INFO.:	US 94-300386	940902 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 93-174674, filed on 28 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-12566, filed on 2 Feb 1993, now abandoned Ser. No. Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned And Ser. No. US 92-826623, filed on 27 Jan 1992
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Eisenschenk, Frank C.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 2994
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within the ***CDR*** regions of immunoglobulin heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library production methods.

L22 ANSWER 3 OF 3 USPATFULL
ACCESSION NUMBER: 97:66028 USPATFULL
TITLE: Human neutralizing monoclonal antibodies to human immunodeficiency virus
INVENTOR(S): ***Burton, Dennis R.*** , La Jolla, CA, United States
Barbas, Carlos F., San Diego, CA, United States
Lerner, Richard A., La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5652138	970729
APPLICATION INFO.:	US 94-276852	940718 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 94-178302, filed on 6 Jan 1994, now abandoned which is a continuation-in-part of Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Budens, Robert D.
LEGAL REPRESENTATIVE: Fitting, Thomas
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 60 Drawing Figure(s); 56 Drawing Page(s)
LINE COUNT: 5839
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes human monoclonal antibodies which immunoreact with and neutralize human immunodeficiency virus (HIV). Also disclosed are immunotherapeutic and diagnostic methods of using the monoclonal antibodies, as well as cell line for producing the monoclonal antibodies.

=> s l18

0 "LERNER RICHARD ALAN"/AU
35 "LERNER RICHARD A"/AU
3 "LERNER RICHARD"/AU
0 "LERNER R A"/AU
0 "LERNER R"/AU
1847 COMPLEMENTARITY
16 COMPLEMENTARITIES
1853 COMPLEMENTARITY
(COMPLEMENTARITY OR COMPLEMENTARITIES)
303842 DETERMINING
2 DETERMININGS
303842 DETERMINING
(DETERMINING OR DETERMININGS)
425056 REGION
209895 REGIONS
474960 REGION
(REGION OR REGIONS)
359 COMPLEMENTARITY(W) DETERMINING(W) REGION
993 CDR
366 CDRS
1069 CDR
(CDR OR CDRS)
7995 IMMUNOGLOBULIN
4704 IMMUNOGLOBULINS
9641 IMMUNOGLOBULIN
(IMMUNOGLOBULIN OR IMMUNOGLOBULINS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
6672 IG
190 IGS
6785 IG
(IG OR IGS)
646946 LIGHT
46033 LIGHTS
655352 LIGHT
(LIGHT OR LIGHTS)
303508 CHAIN
88477 CHAINS
326854 CHAIN
(CHAIN OR CHAINS)
20160 GENE
14872 GENES
21754 GENE
(GENE OR GENES)
49 (IMMUNOGLOBULIN(W) LIGHT(W) CHAIN OR IG(W) LIGHT(W) CHAIN)
(5A) GENE
L23 8 (L17 OR L15) AND (L2 OR L3)

=> d l23 1-8 ibib ab

L23 ANSWER 1 OF 8 USPATFULL
ACCESSION NUMBER: 1998:108273 USPATFULL
TITLE: Human neutralizing monoclonal antibodies to human immunodeficiency virus
INVENTOR(S): Burton, Dennis R., La Jolla, CA, United States
Barbas, Carlos F., San Diego, CA, United States
Lerner, Richard A. , La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5804440	980908
APPLICATION INFO.:	US 97-899575	970724 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 94-276852, filed on 18 Jul 1994, now patented, Pat. No. US 5652138 which is a continuation-in-part of Ser. No. US 94-178302, filed on 6 Jan 1994, now abandoned which is a continuation-in-part of Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Budens, Robert D.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1,3,5,8
NUMBER OF DRAWINGS: 60 Drawing Figure(s); 56 Drawing Page(s)
LINE COUNT: 5816
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention describes human monoclonal antibodies which immunoreact with and neutralize human immunodeficiency virus (HIV). Also disclosed are immunotherapeutic and diagnostic methods of using the monoclonal antibodies, as well as cell line for producing the monoclonal antibodies.

L23 ANSWER 2 OF 8 USPATFULL
ACCESSION NUMBER: 1998:72391 USPATFULL
TITLE: Phagemids coexpressing a surface receptor and a surface heterologous protein
INVENTOR(S): Light, II, James Paul, San Diego, CA, United States
Lerner, Richard A. , La Jolla, CA,

United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5770356	980623
	WO 9405781	940317
APPLICATION INFO.:	US 95-387874	950222 (8)
	WO 93-US8364	930903
		950222 PCT 371 date
		950222 PCT 102(e) date

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 92-941369, filed on 4 Sep 1992, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Guzo, David
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 45
EXEMPLARY CLAIM: 26
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 13 Drawing Page(s)
LINE COUNT: 5302
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A filamentous phage is described comprising a matrix that includes a heterologous polypeptide fused to a first filamentous phage coat protein membrane anchor and a heterodimeric receptor comprised of first and second receptor polypeptides, wherein one of the receptor polypeptides is fused to a second filamentous phage coat protein membrane anchor. Filamentous phage expressing anchored heterodimeric receptors and dimers of heterologous polypeptides where a first subunit of the dimer is fused to a coat protein membrane anchor and the second subunit of the dimer is soluble heteromeric receptor are also described.

L23 ANSWER 3 OF 8 USPATFULL
ACCESSION NUMBER: 97:96747 USPATFULL
TITLE: Methods for producing polypeptide metal binding sites and compositions thereof
INVENTOR(S): Barbas, Carlos F., San Diego, CA, United States
Rosenblum, Jonathan, San Diego, CA, United States
Lerner, Richard A. , La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5679548	971021
APPLICATION INFO.:	US 93-77797	930614 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 93-12566, filed on 2 Feb 1993, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Lucas, John
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1,9
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 3121
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes methods for producing metal binding sites on polypeptides, and particularly for producing metal binding sites within the ***CDR*** regions of immunoglobulin heavy or light chains that are displayed on the surface of filamentous phage particles. The invention also describes oligonucleotides useful for preparing the metal binding sites, and human monoclonal antibodies produced by the present methods.

L23 ANSWER 4 OF 8 USPATFULL
ACCESSION NUMBER: 97:83815 USPATFULL
TITLE: Methods for producing antibody libraries using universal or randomized immunoglobulin light chains
INVENTOR(S): Barbas, Carlos F., San Diego, CA, United States
Burton, Dennis R., La Jolla, CA, United States
Lerner, Richard A. , La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5667988	970916
APPLICATION INFO.:	US 94-300386	940902 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 93-174674, filed on 28 Dec 1993, now abandoned which is a continuation-in-part of Ser. No. US 93-12566, filed on 2 Feb 1993, now abandoned Ser. No. Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned And Ser. No. US 92-826623, filed on 27 Jan 1992
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Eisenschenk, Frank C.
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 2994
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes methods for producing antibody libraries, and particularly for increasing antibody library diversity by inducing mutagenesis within the ***CDR*** regions of immunoglobulin heavy or light chains that are displayed on the surface of filamentous phage particles comprising the library. The invention also describes oligonucleotides useful for increasing the library diversity, and universal light chains useful in the library production methods.

L23 ANSWER 5 OF 8 USPATFULL
ACCESSION NUMBER: 97:81410 USPATFULL
TITLE: Metal binding proteins
INVENTOR(S): ***Lerner, Richard A.*** , La Jolla, CA, United States
Roberts, Victoria A., San Diego, CA, United States
Getzoff, Elizabeth D., San Diego, CA, United States
Tainer, John A., San Diego, CA, United States
Benkovic, Stephen J., State College, PA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5665865	970909
APPLICATION INFO.:	US 94-343658	941122 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 93-64795, filed on 19 May 1993, now abandoned which is a continuation of Ser. No. US 90-539980, filed on 18 Jun 1990, now abandoned which is a continuation-in-part of Ser. No. US 90-521258, filed on 8 May 1990, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Feisee, Lila
ASSISTANT EXAMINER: Reeves, Julie
LEGAL REPRESENTATIVE: Fitting, Thomas; Holmes, Emily
NUMBER OF CLAIMS: 32
EXEMPLARY CLAIM: 1,12
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 1756
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention describes a metal binding protein capable of forming a coordination complex with a metal cation. The protein contains a sequence of amino acid residues that defines a variable domain of an immunoglobulin light chain having a L1 region and a L3 region, and also contains three contact amino acid residues in the variable domain that participate as ligands for the metal coordination complex.

L23 ANSWER 6 OF 8 USPATFULL
ACCESSION NUMBER: 97:73438 USPATFULL
TITLE: Heterodimeric receptor libraries using phagemids
INVENTOR(S): Barbas, Carlos, La Jolla, CA, United States
Kang, Angray, Carlsbad, CA, United States
Lerner, Richard A. , La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5658727	970819
	WO 9218619	921029
APPLICATION INFO.:	US 94-133011	940608 (8)
	WO 92-US3091	920410
		940608 PCT 371 date
		940608 PCT 102(e) date

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Ketter, James S.
LEGAL REPRESENTATIVE: Fitting, Thomas
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 14 Drawing Page(s)
LINE COUNT: 5935
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Filamentous phage comprising a matrix of cpVIII proteins encapsulating a genome encoding first and second polypeptides of an antogenously assembling receptor, such as an antibody, and a receptor comprised of the first and second polypeptides surface-integrated into the matrix via a filamentous phage coat protein membrane anchor domain fused to at least one of the polypeptides.

L23 ANSWER 7 OF 8 USPATFULL
ACCESSION NUMBER: 97:66028 USPATFULL
TITLE: Human neutralizing monoclonal antibodies to human immunodeficiency virus
INVENTOR(S): Burton, Dennis R., La Jolla, CA, United States
Barbas, Carlos F., San Diego, CA, United States
Lerner, Richard A. , La Jolla, CA, United States
PATENT ASSIGNEE(S): The Scripps Research Institute, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5652138	970729
APPLICATION INFO.:	US 94-276852	940718 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 94-178302, filed on 6 Jan 1994, now abandoned which is a continuation-in-part of Ser. No. US 92-954148, filed on 30 Sep 1992, now abandoned
DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Budens, Robert D.
LEGAL REPRESENTATIVE: Fitting, Thomas
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 60 Drawing Figure(s); 56 Drawing Page(s)
LINE COUNT: 5839
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes human monoclonal antibodies which immunoreact with and neutralize human immunodeficiency virus (HIV). Also disclosed are immunotherapeutic and diagnostic methods of using the monoclonal antibodies, as well as cell line for producing the monoclonal antibodies.

L23 ANSWER 8 OF 8 USPATFULL
ACCESSION NUMBER: 92:53209 USPATFULL
TITLE: Molecules with antibody combining sites that exhibit catalytic properties
INVENTOR(S): ***Lerner, Richard A.*** , La Jolla, CA, United States
Janda, Kim, San Diego, CA, United States
Schloeder, Diane, San Diego, CA, United States

PATENT ASSIGNEE(S): Scripps Clinic and Research Foundation, La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5126258	920630
APPLICATION INFO.:	US 88-234425	880819 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 87-86896, filed on 17 Aug 1987, now patented, Pat. No. US 5030717 which is a continuation-in-part of Ser. No. US 86-980313, filed on 17 Sep 1986, now abandoned which is a continuation-in-part of Ser. No. US 86-920699, filed on 17 Oct 1986, now abandoned which is a continuation-in-part of Ser. No. US 84-648406, filed on 7 Sep 1984, now patented, Pat. No. US 4659567

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Patterson, Charles L.
LEGAL REPRESENTATIVE: Dressler, Goldsmith, Shore, Sutker & Milnamow, Ltd.
NUMBER OF CLAIMS: 2
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 3004
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An analog-ligand having a conformation that substantially corresponds to the conformation of a hydrolytic transition state of an amide or ester reactant ligand is used to produce receptor molecules of predetermined specificity. The receptor molecules include an antibody combining site that binds to the analog-ligand and also to a reactant ligand and thereby stabilizes the tetrahedral carbon atom of the amide or ester hydrolysis transition state of that reactant ligand to catalytically hydrolyze the reactant ligand at a predetermined site.

=> d his

(FILE 'HOME' ENTERED AT 14:43:38 ON 12 NOV 1998)
SET PLURALS ON

FILE 'MEDLINE, CANCERLIT, SCISEARCH, BIOSIS, EMBASE, CAPLUS, WPIDS'
ENTERED AT 14:44:10 ON 12 NOV 1998
L1 998109 S (MUTAGEN? OR MUTAT?)
L2 7755 S (COMPLEMENTARITY(W)DETERMINING(W)REGION OR CDR)
L3 1175 S (IMMUNOGLOBULIN(W)LIGHT(W)CHAIN OR IG(W)LIGHT(W)CHAIN)
L4 14 S L1 AND L2 AND L3
L5 7 DUP REM L4 (7 DUPLICATES REMOVED)
E BARBAS C F/AU
L6 361 S E6 OR E5 OR E4 OR E3 OR E2
L7 106 S E12 OR E11 OR E10
L8 57 S (L6 OR L7) AND L2
L9 5 S (L6 OR L7) AND (L2 AND L3)
L10 3 DUP REM L9 (2 DUPLICATES REMOVED)
E BURTON D R/AU
L11 634 S E3
E BURTON DENNIS/AU
L12 136 S E6 OR E5 OR E3
L13 35 S (L11 OR L12) AND (L2 OR L3)
L14 11 DUP REM L13 (24 DUPLICATES REMOVED)
E LERNER R A/AU
L15 1409 S E3 OR E2
E LERNER RICHARD/AU
L16 303 S EE5 OR E4 OR E3
L17 396 S E5 OR E4 OR E3
L18 36 S (L17 OR L15) AND (L2 OR L3)
L19 16 DUP REM L18 (20 DUPLICATES REMOVED)

FILE 'USPATFULL' ENTERED AT 15:23:29 ON 12 NOV 1998
L20 22 S L4
L21 3 S L9
L22 3 S L13
L23 8 S L18

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LOGOFF? (Y)/N/HOLD:y

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FULL ESTIMATED COST		67.80	208.64

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	ENTRY	SINCE FILE SESSION	TOTAL
CA SUBSCRIBER PRICE		0.00	-9.26

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